



298414

Focused Site Inspection Prioritization
Report

for

Arlington Heights Municipal Landfill
ILD 984 781 526

July 24, 1995

Prepared for:
U.S. Environmental Protection Agency
under Alternative Remedial Contracting Strategy
Contract 68-W8-0064, Work Assignment 32-5JZZ

For U.S. Environmental Protection Agency, Region V

Approved by: Alan Altman

Date: 9/29/95

For Illinois Environmental Protection Agency

Approved by: _____

Date: _____

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Contents

1.0	Introduction	1-1
2.0	Site Background	2-1
2.1	Introduction	2-1
2.2	Site Description	2-1
2.3	Site History	2-4
2.3.1	Operational History	2-4
2.3.2	Summary of Onsite Environmental Work	2-4
2.4	Applicability of Other Statutes	2-6
3.0	Site Inspection Activities and Analytical Results	3-1
3.1	Introduction	3-1
3.2	Site Reconnaissance	3-1
3.3	Site Representative Interview	3-1
3.4	Groundwater Sampling	3-1
3.5	Surface Water and Sediment Sampling	3-6
3.6	Soil Sampling	3-6
3.7	Analytical Results	3-7
3.8	Key Samples	3-7
4.0	Characterization of Sources	4-1
4.1	Introduction	4-1
4.2	Landfill	4-1
4.2.1	Description	4-1
4.2.2	Waste Characteristics	4-1
4.2.3	Potentially Affected Migration Pathways	4-1
4.3	Other Potential Sources Within One Mile	4-1
5.0	Discussion of Migration Pathways	5-1
5.1	Introduction	5-1
5.2	Groundwater	5-1
5.3	Surface Water	5-3
5.4	Air	5-4

Contents (Continued)

5.5	Soil	5-4
6.0	References	6-1

Tables

Table 3-1	Sample Descriptions	3-3
Table 3-2	Key Sample Summary	3-8
Table 5-1	<i>Estimated Population Relying on Groundwater</i>	5-3

Figures

Figure 2-1	Site Location Map	2-2
Figure 2-2	Site Layout	2-3
Figure 3-1	Sample Locations	3-2

Appendices

Appendix A	Site 4-Mile Radius Map and 15-Mile Surface Water Route Map
Appendix B	USEPA Form 2070-13
Appendix C	Target Compound List and Target Analyte List
Appendix D	Analytical Results
Appendix E	Site Photographs
Appendix F	Representative Well Logs

1.0 Introduction

On December 13, 1994, Black & Veatch Waste Science, Inc. (BVWS), was authorized, by approval of the work plan amendment by the U.S. Environmental Protection Agency (USEPA) Region V, to conduct an focused site inspection prioritization (FSIP) of the Arlington Heights Municipal Landfill site in Cook County, Illinois.

The site was initially placed on the Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) on February 15, 1990, as a result of a request for discovery action initiated by the Illinois Environmental Protection Agency (IEPA).

The facility received its Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) evaluation in the form of a preliminary assessment (PA) report completed by Judy J. Triller, IEPA, on August 7, 1990. The sampling portion of the SSI was conducted on April 14 and 15 and May 20, 1993, when a field team collected two groundwater, four surface water, five sediment, and three soil samples.

The site is listed on the CERCLIS more than once. Under another CERCLIS number, a screening site inspection (SSI) was completed at the site on January 29, 1988. A second inspection, reported in this document, was conducted; however, it did not duplicate the first SSI. The subsequent investigation, designated as an FSIP, evaluated two pathways not previously sampled, and documented observed releases to groundwater and surface water. No reference to multiple site listings or inspections was found in the PAs or the original SSI report.

The objective of the FSIP is to review the outstanding SSIs performed before the implementation of the revised HRS for which a final decision has not been made regarding further action. The FSIP will determine whether the existing SSI information meets a minimum standard to reflect the revised HRS, and, if not, collect additional information by file review, reconnaissance and sampling on an as-needed basis. The FSIP will evaluate the threats posed to human health and the environment and provide sufficient documentation for USEPA to decide the appropriate future course of action (no further remedial action planned [NFRAP], further evaluation, or preparation of an HRS package).

2.0 Site Background

2.1 Introduction

This section includes information obtained during the FSIP and from reports of previous site activities.

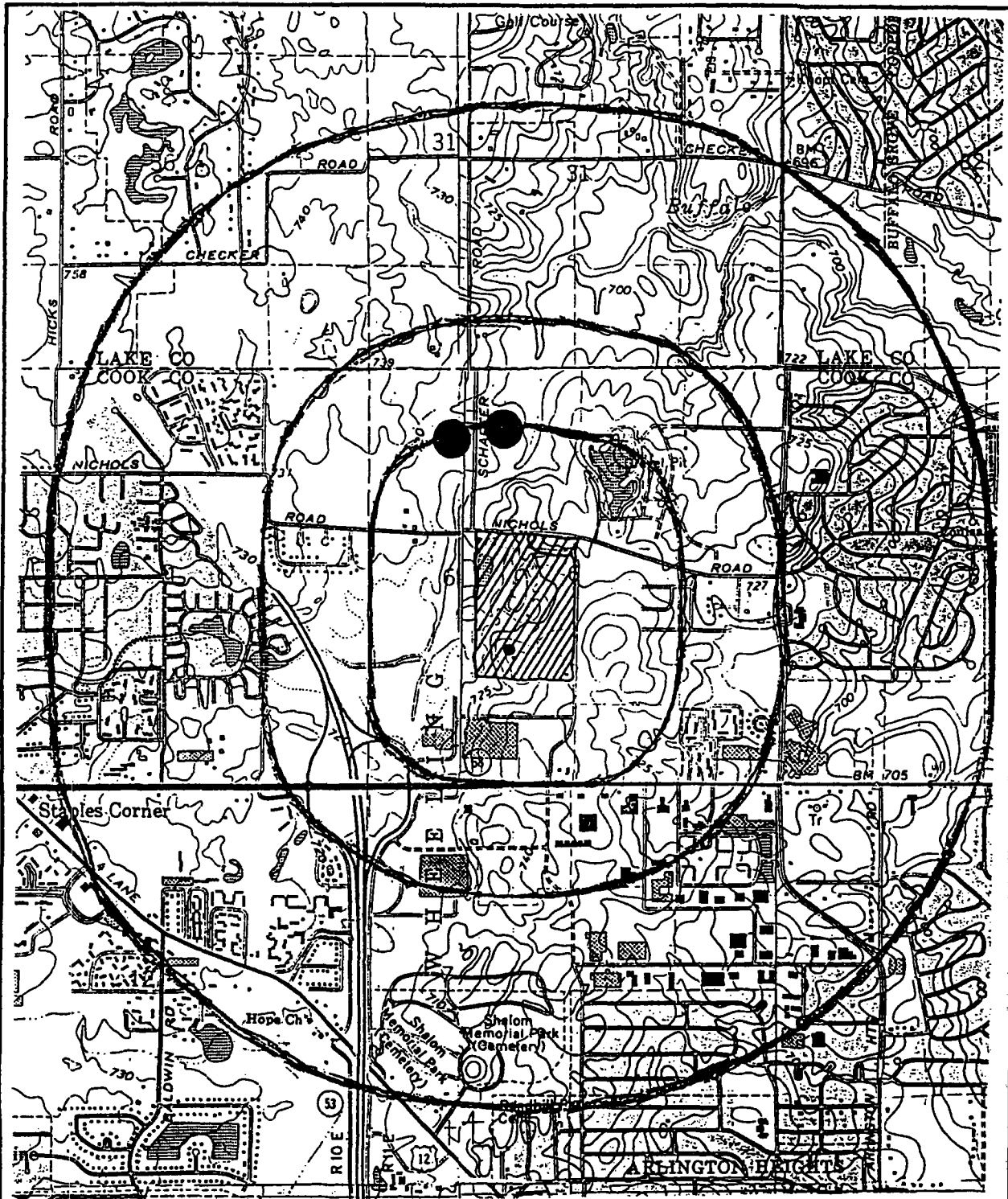
2.2 Site Description

The Arlington Heights Municipal Landfill (AHML) is located near Route 68 (Dundee Road) and Kennicott Avenue in the village of Arlington Heights, Illinois. The property is in the western half of Section 6, Township 42 North, Range 11 East, in Cook County. Figure 2-1 is a United States Geological Survey (USGS) site location map; Figure 2-2 shows the site layout.

The topography of the 54-acre AHML property has been affected by two main types of materials: landfilled wastes and lake excavation sediment. A ditch along the southern and western property lines collects runoff from the southern and western portions of the site. The onsite pond, which is fed by the ditch, receives runoff from the central portion of the site. During wet periods, the pond discharges to Buffalo Creek through a drain tile. The tile is believed to be an old agricultural drain tile. Runoff from the eastern slope of the landfill flows offsite onto a flat area, which is an unpaved right-of-way for Kennicott Avenue. This runoff eventually flows into the storm sewers on Kennicott Avenue, near the northeastern and southeastern corners of the site. Runoff from the landfill's northern slope flows to storm sewers on Nichols Road.

A fence surrounds the AHML site. Gates are located near the southeastern corner and along the south-central border of the property. The gates are three feet high cross-bars that restrict vehicles, but not pedestrians.

The inactive landfill occupies a large portion of the property, but several municipal facilities are located in the southern portion. The wellhouse of Well #13, a deep Cambrian-Ordovician bedrock well used as an emergency water supply, is adjacent to a large municipal water tank. The well is maintained with regular pumping. It has not been used as a drinking water source since Arlington Heights began using Lake Michigan water (Arlington Heights, 1993b). A fire fighting training building and a trench rescue practice facility are also near the tank. An equipment building located near the property's southeastern corner was being torn down during



Source:
USGS (1960, 1963b)

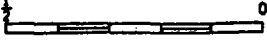
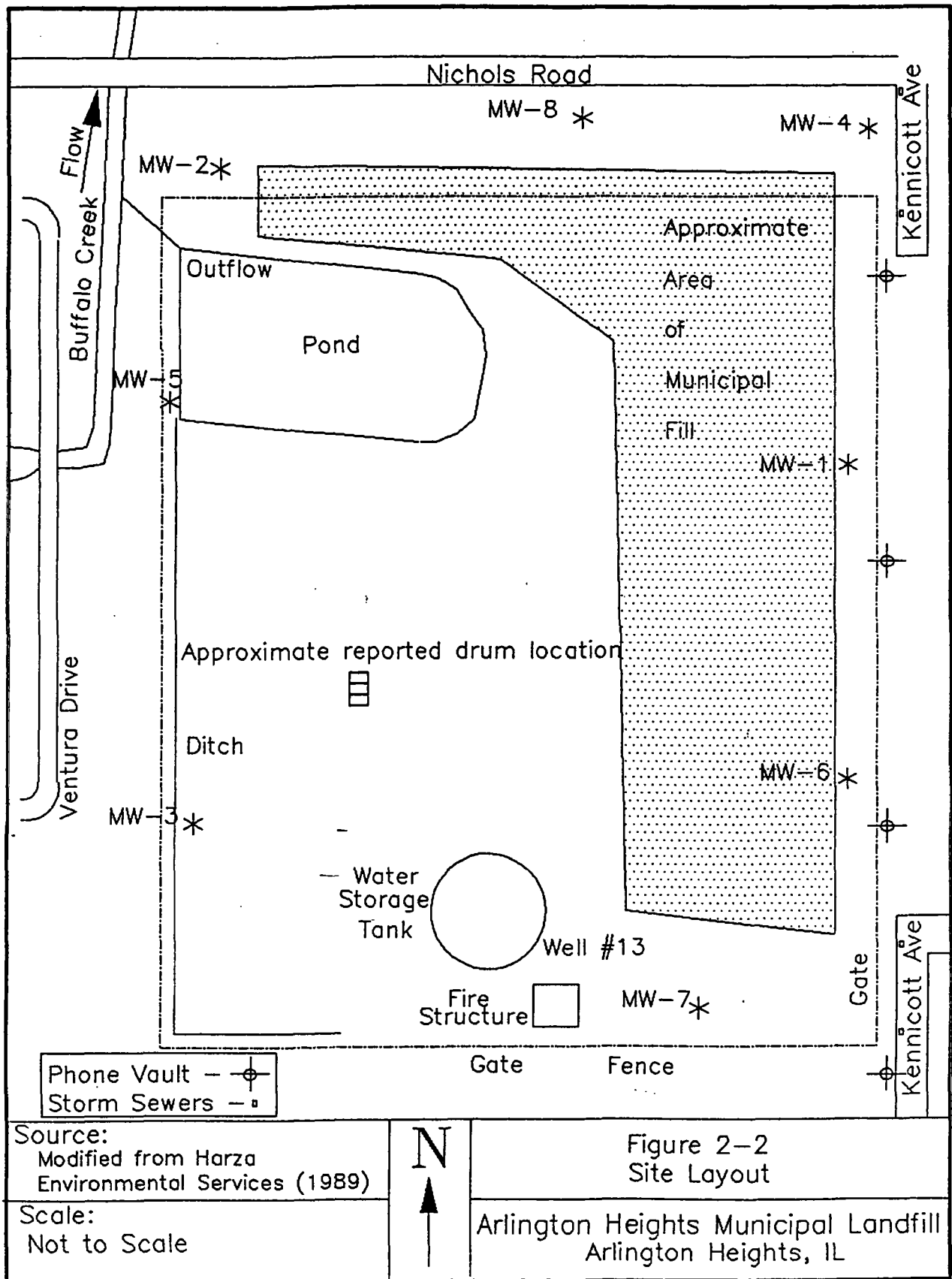
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Figure 2-1
Site Location Map

Arlington Heights Municipal Landfill
Arlington Heights, IL



the May 20, 1993, sampling visit. Eight monitoring wells installed in 1989 are spaced around the perimeter of the site.

The municipal property is bordered on the north and east by residential areas, on the south by a Honeywell corporation facility, and on the west by an office park. Within four miles of the site, land use is mainly residential, with a mixture of commercial, transportation, and recreational areas. Appendix A presents a map illustrating the land use within four miles of the site.

2.3 Site History

2.3.1 Operational History

Before landfilling operations, the property was used as a farm and a gravel pit (IEPA, 1990). The village of Arlington Heights acquired the property between 1964 and 1968; landfilling operations began during this period. The AHML accepted municipal waste until 1974 and construction debris until the late 1980s.

During its active period, the AHML presumably operated either as an open dump or as a sanitary landfill. A cover, varying in thickness from 3.5 to 9.5 feet, was laid down after the landfill closed (IEPA, 1990).

Village of Arlington Heights representatives stated that 1.5 million cubic yards of sediment and soil have been deposited onsite to grade the land for future use as a golf course. The excavated material has a thickness of 80 feet in some places. The source of the sediment and soil is the McDonald Creek project, where a lake is being constructed in east Arlington Heights (Arlington Heights, 1993b).

The AHML site is usually inactive. Village of Arlington Heights employees periodically check the various facilities in the southern portion of the property. Fire fighting and trench rescue training takes place occasionally at the site, which is a regional training center.

2.3.2 Summary of Onsite Environmental Work

IEPA observed leachate seeps at undocumented locations at the landfill in 1972, 1978, 1979, 1980, and 1984 (IEPA, 1989b). Only the 1984 seep was sampled.

During a December 16, 1975, IEPA inspection, approximately 100, 55-gallon drums were observed at the southwestern corner of the landfill, near the water tank (IEPA, 1989a, 1989b). Most drums appeared empty. Labels were observed on the drums (AERO Shell Fluid #4, Dupont Fluor Carbon TF & TE solvent, and light Cy

Oil). Approximately forty drums filled with unknown liquids were transported to Lake Landfill Inc. on February 9, 1976, for disposal.

In February 1976, the Arlington Heights director of public works informed IEPA that drums possibly containing residual water-soluble cutting oils from the nearby Honeywell Corp. facility were empty when landfilled at the site (Arlington Heights, 1976).

On two other occasions, IEPA observed 55-gallon drums on the site (IEPA, 1989a). First, drums were seen in a pond at the southwestern corner of the site, and secondly, on a separate occasion, IEPA observed the burial of drums at an undocumented site location.

Illinois Bell Telephone (IBT) sampled water trapped in four telephone vaults along the eastern edge of the landfill in October 1987. Samples were analyzed for volatile organic constituents. Eleven volatile organic compounds were detected (Harza Environmental Services, 1989).

The first of two PAs was performed by IEPA in 1986 (IEPA, 1986). The first PA is brief and includes little information.

Following the first PA, Ecology and Environment, Inc., performed an SSI at the AHML (E&E, 1988). An old well believed to have been installed by IEPA was the only onsite monitoring well at the time. It was not sampled. Surface soil sampling took place on October 1, 1987, at four locations in the northern part of the property and at a background location in the southeastern part of the property near the maintenance building. Analytical results indicated metals and estimated concentrations of several organics in the investigative samples. However, the highest concentrations for most organics were in the background sample. Tentatively identified compounds were also noted in the SSI results.

In February 1989, an Environmental Assessment Report was published. It included documentation of the installation of eight monitoring wells to a maximum depth of 48 feet (Harza Environmental Services, 1989). Upon completion, the wells were sampled and analyzed for three physical parameters, total organic carbon, total organic halogens, and six inorganic parameters.

No documentation has been found of complete inorganic and organic analyses of samples from these monitoring wells.

In February 1989, IEPA sampled water in one of the IBT phone vaults after an IBT complaint. Samples were analyzed for organic and inorganic parameters. Eleven volatile organic compounds were detected (IEPA, 1989a).

The AHML was listed on the CERCLIS list in February 1990. A second PA was performed in August 1990 by IEPA, resulting in a medium priority recommendation for further investigation (IEPA, 1990).

2.4 Applicability of Other Statutes

The Illinois RCRA listing contains a reference to a village of Arlington Heights facility (ILD 984 838 367) at 3600 N. Kennicott (USEPA, 1992b). The facility was designated a small quantity generator as of September 24, 1991. The listing does not clearly describe the facility; however, the address is approximately the same as the AHML.

The AHML was listed three times in CERCLIS (USEPA, 1992a): one listing description appears in section 1.0 of this report; the other two listings were under identification numbers ILD 980 612 543 (preliminary assessment with no further remedial action planned status in 1987) and ILD 981 193 428 (site inspection with higher priority in 1988). CERCLIS has been corrected to reflect the identification number of this report (ILD 984 781 526) as the current identification number.

3.0 Site Inspection Activities and Analytical Results

3.1 Introduction

This section outlines procedures used and observations made during the FSIP conducted at the AHML site. Sampling activities were conducted in accordance with the Quality Assurance Project Plan (QAPjP), dated September 27, 1991. Figure 3-1 shows each sample location; Table 3-1 provides a summary of sample descriptions and locations.

Appendix B presents the USEPA Potential Hazardous Waste Site Inspection Report (Form 2070-13).

Samples collected for this FSIP were analyzed for organic and inorganic substances contained on the USEPA Target Compound List (TCL) and Target Analyte List (TAL) by USEPA Contract Laboratory Program participant laboratories. Appendix C presents the TCL and TAL. Appendix D presents a summary of analytical data generated by FSIP sampling. Appendix E contains photographs of the site and sample locations.

3.2 Site Reconnaissance

On December 31, 1992, a reconnaissance of the AHML site was conducted. This visit included a visual site inspection to determine the facility's status, activities, and health or safety hazards, and to identify potential sampling locations.

3.3 Site Representative Interview

Village of Arlington Heights employees Allen Sander, Director of Public Works, and Dennis Bowe, Superintendent of Utilities, were interviewed by the reconnaissance team on December 31, 1992, at the Arlington Heights municipal building. The reconnaissance team discussed the purpose of the FSIP with site representatives and gathered site-specific information. Bowe then accompanied the team to the site.

3.4 Groundwater Sampling

On April 15, 1993, a field team collected groundwater samples at two onsite monitoring wells. The wells were purged using a decontaminated Fultz pump until

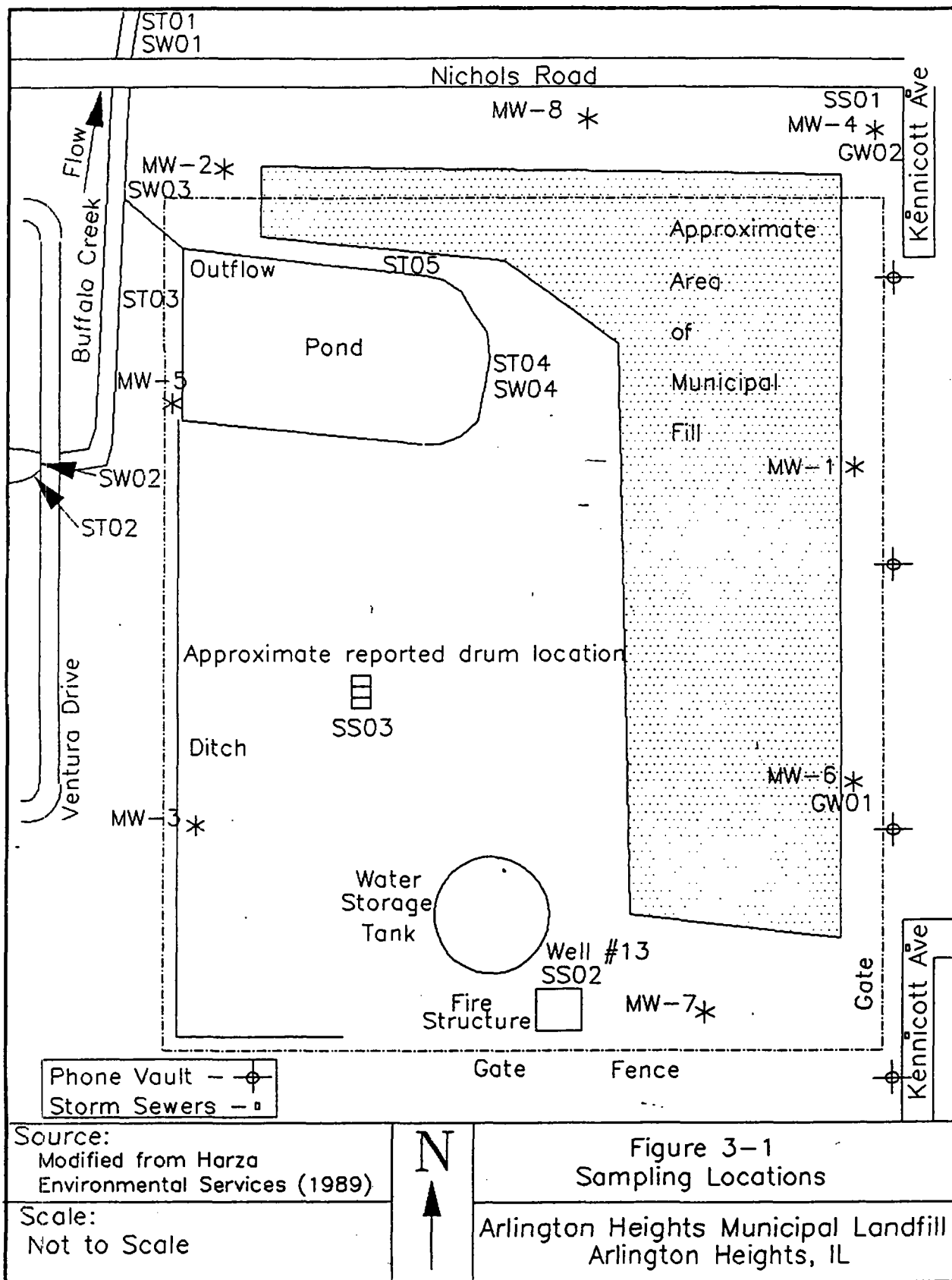


Table 3-1 Sample Descriptions			
Sample	Depth	Appearance	Location
GW01	38.8 - 43.8 ft.	Clear, odorless	AHML MW-6 north of site's southeastern gate, selected to represent background conditions
GW02	26.9 - 31.9 ft.	Gray, silty, odorless	AHML MW-4 at northeastern corner of site
SW01	0 - 1 inch	Clear and odorless	18 feet north of the handrail, on the northeastern corner of the Nichols Rd. bridge over Buffalo Creek
SW02	0 - 1 inch	Clear and odorless	At the weir of the dam, on the western side of the northern crossing of Ventura Dr. over Buffalo Creek, selected to represent background conditions
SW03	0 - 1 inch	Clear and odorless	From the onsite pond's outflow pipe at the base of the tree 57 feet south of Nichols Rd. bridge over Buffalo Creek
SW04	0 - 1 inch	Cloudy, swampy odor	In onsite pond, near the center of the east bank

Table 3-1 (Continued) Sample Descriptions			
Sample	Depth	Apperrance	Location
ST01	0 - 3 inches	Sandy clay, dark brown, wet	26 feet north of handrail on the northeastern corner of the Nichols Rd. bridge over Buffalo Creek
ST02	0 - 3 inches	Clayey sand, dark brown, wet, some silt	From the pond's bank, 15 feet south of the dam's weir, on the western side of the northern crossing of Ventura Dr. over Buffalo Creek, selected to represent background conditions
ST03	0 - 3 inches	Clayey silt, dark brown, moist, some organic matter	21 feet east of Buffalo Creek and about 100 feet south-southeast of the Nichols Rd. bridge over Buffalo Creek
ST04	0 - 3 inches	Silty clay, brown, wet, some organic matter	In the onsite pond, near the center of the east bank
ST05	0 - 3 inches	Clayey silt, gray-brown, wet	In the onsite pond, along the northern shore
SS01	0 - 6 inches	Silty clay, brown, moist	8 feet south of MW-4, selected to represent background conditions

Table 3-1 (Continued) Sample Descriptions			
Sample	Depth	Apperrance	Location
SS02	0 - 6 inches	Sandy silt, dark brown, moist	12 feet northeast of the two manhole covers located about 20 feet northwest of fire tower
SS03	0 - 6 inches	Clayey silt, dark brown, moist, some sand	About 100 yards northwest of water tank

at least three well volumes of water were removed and pH and conductivity were stable.

Field and monitoring well conditions limited the groundwater sampling effort. Two of the four monitoring wells located on the eastern side of the site, (MW-4 and MW-6) were sampled. Of the remaining four onsite monitoring wells, MW-8 was not located and is assumed to be destroyed; MW-2 was apparently vandalized and could not be sampled; and MW-3 and MW-5, located between a fence and a water filled ditch, were inaccessible.

Sample containers were sealed, labeled, packaged, and delivered to the USEPA Central Regional Laboratory (CRL) in Chicago on April 16, 1993, by the field team.

All reusable sampling equipment and personal protective equipment (PPE) were decontaminated. Disposable sampling and PPE items were discarded in accordance with procedures outlined in the FSIP project work plan and the QAPjP.

Because of fairly complex stratigraphy in the glacial drift and the undocumented extent of sand and gravel excavation, it is difficult to determine groundwater flow directions. The degree of hydraulic connection between Buffalo Creek and sandy zones in the drift has not been established. Groundwater sample GW01 taken at MW-6 was selected to represent background conditions.

3.5 Surface Water and Sediment Sampling

On April 14, 1993, a field team collected four surface water samples and five sediment samples. The sediment samples were collected using decontaminated stainless steel spoons.

All surface water samples and the sediment samples for inorganic analysis were sealed, labeled, packaged, and delivered to CRL in Chicago on April 16, 1993, by the field team. Sediment samples for organic analysis were shipped to Analytical Resources in Seattle, Washington, on April 16, 1993.

All reusable sampling equipment and PPE were decontaminated before transport offsite. Disposable sampling and PPE items were discarded in accordance with procedures outlined in the FSIP project work plan and the QAPjP.

Background surface water sample SW02 and sediment sample ST02 were taken on the western side of Buffalo Creek, upstream of the probable point of entry for surface water runoff from the landfill, above the Ventura Drive bridge. At this location, the creek has been widened into a pond in a business complex.

Surface water sample SW04, and sediment samples ST04, and ST05 were taken in the onsite pond to assess the surface water pathway close to the source. Sediment sample ST03 was collected to evaluate potential releases through the overflow outlet of the onsite pond. Surface water sample SW03 was taken from the point where a drain tile outflow thought to drain the onsite pond discharges water into Buffalo Creek. Surface water sample SW01 and sediment sample ST01 were collected to evaluate potential downstream migration of substances attributable to the site.

3.6 Soil Sampling

A field team collected three soil samples using clean, stainless steel spoons. Samples for inorganic analysis were collected on April 15, 1993. Samples for organic analysis were taken the same day; however they were spoiled when their temperature exceeded acceptable limits during transport to the laboratory. The locations were re-sampled for organic analysis on May 20, 1993.

Soil samples scheduled for organic analysis were shipped to ENCOTEC in Ann Arbor, Michigan, on May 20, 1993. Soil samples scheduled for inorganic analysis were delivered to the CRL in Chicago by the field team on April 16, 1993. Samples were analyzed for TCL and TAL substances under a routine analytical services request.

All reusable sampling and PPE were decontaminated before transport offsite. Disposable sampling and PPE items were discarded in accordance with procedures outlined in the FSIP project work plan and the QAPjP.

A background soil sample, SS01, was collected at the northeastern corner of the property. This location was selected as representative of natural soil conditions in the area. Soil sample SS02 was taken near the fire tower training center. Soil sample SS03 was taken northwest of the water tank, in an area where drums were observed in the 1970s. Although the cover is believed to be thick in this area, the sample serves to characterize the fill from the McDonald Creek project.

3.7 Analytical Results

This section summarizes analytical results from FSIP samples. Appendix D presents all FSIP analytical data.

Samples for each pathway were compared to background samples. Laboratory analysis of the two monitoring wells indicates a significant concentration of one inorganic parameter. Surface water data indicates twelve inorganics at significant concentrations. Sediment analysis indicates two semi-volatiles, three pesticides, and five inorganics at significant concentrations compared to the background sample. No soil parameters were determined to be at significant levels. Tentatively identified compounds of volatiles or semi-volatiles were found in groundwater, surface water, and sediment.

3.8 Key Samples

"Key samples" are those samples that contain substances in sufficient concentration to document an observed release. Table 3-2 identifies FSIP key samples for groundwater, surface water, and sediments.

Table 3-2 Key Sample Summary		
Groundwater		
Substance	Sample Number	
	GW01 Background	GW02
Inorganics ($\mu\text{g/L}$)		
Arsenic	2 U	3

Note: U Substance is undetected. The reported value is the contract required detection limit (CRDL).

Table 3-2 (Continued) Key Sample Summary				
Surface Water				
Substance	Sample Number			
	SW01	SW02 Background	SW03	SW04
Inorganics ($\mu\text{g/L}$)				
Aluminum		223	3300	8220
Arsenic	2	2 U	5	15
Barium		35.1		107
Chromium		10.0 U		13.5
Cobalt		7.0 U		11.1
Copper		7.1		30.5
Iron		491	6300	16000
Lead	3	2 U	17	29
Manganese		102		781
Nickel	19.5	18.0 U		38.0
Vanadium		6.0 U	7.9	21.7
Zinc		49.0 U		64.5

Note: U Substance is undetected. The reported value is the CRDL.

Table 3-2 (Continued) Key Sample Summary					
Sediments					
Substance	Sample Number				
	ST01	ST02 Background	ST03	ST04	ST05
Semi-Volatiles ($\mu\text{g/kg}$)					
Fluoranthene	390	390 U	-	460	
Pyrene		390 U	-	480	
Pesticides ($\mu\text{g/kg}$)			-		
4,4-DDE	6.1	3.8 U	6.6	3.8 J	7.1 J
4,4'-DDD	17	3.8 U			
4,4'-DDT		2 J			10 J
Inorganics (mg/kg)					
Calcium		18000		56000	
Manganese		220		670	
Mercury		0.04 J	0.2 J		
Selenium		0.4 U	0.7		0.4
Thallium		0.4 U	0.4		

Notes: J Reported value is estimated.
U Substance is undetected. The reported value is the contract required quantitation limit (CRQL) for organics and the CRDL for inorganics.

4.0 Characterization of Sources

4.1 Introduction

Analysis of FSIP samples identified the landfill area at the AHML site as a source.

4.2 Landfill

4.2.1 Description

The AHML is L shaped. It covers about 18 acres of the 54 acre property (Harza Environmental Services, 1989). AHML accepted municipal solid wastes and construction demolition wastes. Since closure of the landfill in the late 1980s, 1.5 million cubic yards of soils and sediments from the McDonald Creek Lake Construction Project have been deposited as fill and cover material at the site.

4.2.2 Waste Characteristics

FSIP analytical results indicate the groundwater pathway on the eastern side of the landfill contains arsenic above background levels, and the surface water pathway contains several inorganics, two semi-volatiles, and three pesticides. Table 3-2 identifies FSIP key samples for groundwater, surface water, and sediments.

4.2.3 Potentially Affected Migration Pathways

Analysis of FSIP groundwater samples, GW01 and GW02, documents an observed release to the groundwater pathway on the eastern side of the landfill. Analysis of FSIP surface water samples, SW01-SW04, and sediment samples ST01-ST05, documents an observed release to the surface water pathway. Analysis of FSIP soil samples, SS01-SS03, does not document an observed release to the soil pathway.

A slight potential exists for affecting the soil and air pathways. Detected substances may spread onto site soils during flooding or may be entrained and transported in the air pathway as airborne particles.

4.3 Other Potential Sources Within One Mile

The CERCLIS database (USEPA, 1992a) was inspected for other potential hazardous waste sites within one mile of the AHML. Addresses stated in CERCLIS for Arlington Heights, Wheeling, Palatine, and Buffalo Grove were checked on a local street map to determine their proximity to the site. One facility was identified:

Safety-Kleen (ILD 000 805 929) at 306 Campus Drive in Arlington Heights. This location is about one mile southeast of the AHML. IEPA performed a preliminary assessment of Safety-Kleen in 1989 and deferred the site to RCRA.

The RCRA list contains over 150 facilities in Arlington Heights; many are within one mile of the AHML (USEPA, 1992b). The Village of Arlington Heights property that contains the landfill is listed as a small quantity generator. Other RCRA listed facilities are in Wheeling, Palatine, and Buffalo Grove. Some of these may be within one mile of the AHML.

5.0 Discussion of Migration Pathways

5.1 Introduction

This section includes information useful to analyze the potential impact of contaminants found at the AHML site on the four migration pathways: groundwater, surface water, air, and soil.

5.2 Groundwater

FSIP sampling of groundwater samples, GW01 and GW02, determined an observed release of arsenic has occurred to the glacial drift aquifer.

The native (pre-development) surficial soils on the landfill property were loamy and silty soil derived from glacial tills (U.S. Department of Agriculture, 1979). These soils were poorly to moderately well drained. However, landfill operations are assumed to have reshaped the land in most places. The surficial soils may have been used as cover material.

The site geology is a thickness of glacial deposits over Paleozoic sedimentary bedrock. Most of the glacial drift is fine-grained till in the site vicinity. A detailed statewide study by Berg and Kempton (1988) provides three-dimensional mapping of geologic materials to a depth of 50 feet. Their map suggests that the landfill property is underlain by at least 50 feet of silty and clayey till.

Sand and gravel units within the drift sequence may serve as aquifers for domestic uses; however, near the landfill, sand and gravel aquifers are uncommon (Bergstrom and others, 1955). Logs of bedrock wells obtained from the Illinois State Water Survey (ISWS) indicate a glacial drift thickness of 155 to 202 feet within a mile of the landfill. Sand units ranging from 1 to 33 feet in thickness are noted on many of the logs, although some logs do not describe any sand zones. The sand bodies are assumed to have limited lateral extent. Appendix F presents several of these ISWS logs.

The uppermost bedrock in the region is Silurian dolomite (Willman, 1971; Bergstrom and others, 1955), which yields water through fractures. Its lower boundary is the Maquoketa shale, a fairly thick confining unit. Below the Maquoketa is the Cambrian-Ordovician aquifer, the most productive in northeastern Illinois (Hughes and others, 1966). Because the Maquoketa is relatively impermeable, this study focuses on the Silurian dolomite aquifer.

Logs of nearby wells indicate a Silurian dolomite thickness of 200 feet or more. One log, included in Appendix F, describes the bedrock stratigraphy of the Arlington Heights #13 backup well. A 115-foot thick shale shown on the log is interpreted to be the Maquoketa.

Berg and Kempton (1984) mapped Illinois with respect to the potential for contamination of shallow aquifers by landfills. In the AHML vicinity, their map suggests a low susceptibility because of fairly uniform, relatively impermeable silty or clayey till at least 50 feet thick.

Harza Environmental Services (1989) described onsite geology. Harza installed eight monitoring wells to a maximum depth of 48 feet. The wells logs each show a sand and gravel unit within a clayey till. The sandy zones have different thicknesses and occur at different elevations. Their study suggests lateral continuity of the sandy zones and a complex pattern of groundwater flow across the site area.

The suburban area within four miles of the site has many domestic and municipal wells. Most municipal wells are used for backup purposes in communities that receive Lake Michigan water. These communities include Arlington Heights, Buffalo Grove, Wheeling, and Palatine. All backup wells are 1,300 to 2,000 feet deep and are assumed to use the Cambrian-Ordovician aquifer. These wells are assumed to have negligible contamination potential from surface land use.

Barrington Woods the only active public well identified, is about three miles west of the site (IEPA, 1992; ISWS, 1992). This well is 140 feet deep, assumed to be in the Silurian dolomite, and serves 210 people.

Almost all domestic wells in the area range from 100 to 300 feet ~~in~~ depth (ISWS, 1992) and are assumed to use the Silurian dolomite aquifer. A negligible number of shallow wells are assumed to be screened in discrete sand and gravel aquifers. Table 5-1 presents the estimated populations using groundwater from the Silurian dolomite as a drinking water source. These estimates were determined using 1990 demographic information, USGS topographic maps, and well databases.

ISWS (1992) identifies some irrigation wells (golf courses and cemeteries) and commercial/industrial wells within four miles of the site. Most of these wells are finished in the Silurian dolomite aquifer. Because these wells are not used for a drinking water supply, they are not included in Table 5-1.

Table 5-1 Estimated Population Relying on Groundwater	
Distance from Site	Estimated Population
0 to 1/4 mile	0
1/4 to 1/2 mile	5
1/2 to 1 mile	27
1 to 2 miles	864
2 to 3 miles	3,906
3 to 4 miles	5,375
Total	10,177

Source: USGS (1960, 1961, 1963a, 1963b), U.S. Department of Commerce (1991), IEPA (1992), ISWS (1992), Buffalo Grove (1993), Kildeer (1993), Long Grove (1993), Palatine (1993)

Onsite wells include the eight Harza monitoring wells, the deep emergency backup well (Arlington Heights #13), and a well that Arlington Heights representatives refer to as an "IEPA monitoring well." This well is near the municipal well. IEPA has no record of this well (IEPA, 1993a). The only reference to it is in an ISWS database, which lists it as a 47-foot deep well belonging to "Arlington Heights (Landfill)" and constructed in 1977 (ISWS, 1992).

The nearest domestic wells listed by ISWS (1992) are two wells about 0.3 miles northwest of the landfill.

5.3 Surface Water

Site surface runoff reaches Buffalo Creek, which is near the property's western border. As described in Section 2.2, some site runoff collects in the onsite pond, which discharges to the creek. In other areas, runoff is collected either in storm sewers that discharge to the creek or in a ditch that feeds the pond.

The 15-mile downstream flow route begins with a six-mile section of Buffalo Creek. The creek is then renamed Wheeling Drainage Ditch. After three miles, the

ditch empties into the Des Plaines River. The 15-mile downstream point is on this river at Big Bend Lake.

Average flow data is available from the USGS (1991). At the 4-mile point in Buffalo Creek, flow is 17.6 cubic feet per second (cfs). At the 12-mile point in the Des Plaines River, flow is 277 cfs.

The site is outside the 500-year floodplain (FEMA, 1981).

FSIP sampling results determined an observed release of several inorganics has occurred to the onsite pond and Buffalo Creek.

No surface water intakes are within 15 downstream miles of the site (IEPA, 1983).

Buffalo Creek, Wheeling Ditch, and the Des Plaines River are all assumed to be used for recreational fishing.

Two state-listed endangered species habitats are along the 15-mile flow route. They are specified only as an animal at 11.5 miles and a plant at 14.5 miles (Illinois Department of Conservation, 1993).

Buffalo Creek, the onsite pond, and all subsequent surface water bodies are mapped as wetlands (U.S. Fish and Wildlife Service, 1980, 1981a, 1981b).

5.4 Air

No air samples were taken during the sampling visit except for standard air monitoring. Readings with a photoionization detector were at background levels around the site and at sampling locations.

Numerous residences are within one-quarter mile of the site, to the north and east. A Honeywell Corp. facility is south of the site; other businesses are in an industrial park just to the west of the site. Wetlands within one-quarter mile of the site include the onsite pond, a portion of Buffalo Creek, and a small wetland to the northeast of the site.

5.5 Soil

FSIP sampling results did not show the presence of TAL or TCL substances in the three areas sampled.

The fence around AHML varies. In some locations, the height of the fence is reduced because the lower portion of the fence is buried by soil eroded from nearby landfill slopes. Along the eastern border, the fence is in poor condition. The site gates on the southern and eastern borders are three foot tall cross-bars that restrict

vehicular traffic, but do not limit trespassers on foot or on bicycle. Ordinarily, no one works on the landfill portion of the property. In the southern portion of the property, Arlington Heights employees periodically check the water tank and the fire and trench rescue facility occasionally hosts a group of trainees.

About sixty single family homes are within 200 feet of the property, based on an inspection of the municipal zoning map (Arlington Heights, 1993b). About 2,032 people are within one mile of the AHML.

- U.S. Department of Agriculture, 1979. Soil Survey of DuPage County and Part of Cook County, Illinois.
- U.S. Department of Commerce, 1991. Summary Population and Housing Characteristics, Illinois, 1990 Census of Population and Housing.
- U.S. Environmental Protection Agency (USEPA), 1988, "Pre-Remedial Strategy for Implementing SARA," Office of Solid Waste and Emergency Response, Washington, D.C., Directive Number 9345.2-101, February.
- USEPA, 1992a. Illinois CERCLIS listing, July 8.
- USEPA, 1992b. Illinois list of RCRA notifiers, July 24.
- U.S. Fish and Wildlife Service. National Wetlands Inventory map of Lake Zurich 7.5 minute quadrangle. Aerial photography dated October 1980.
- U.S. Fish and Wildlife Service. National Wetlands Inventory map of Arlington Heights 7.5 minute quadrangle. Aerial photography dated November 1981a.
- U.S. Fish and Wildlife Service. National Wetlands Inventory map of Wheeling 7.5 minute quadrangle. Aerial photography dated November 1981b.
- U.S. Geological Survey (USGS), 1960. Topographic map, Lake Zurich, IL, 7.5-minute quadrangle, photo-revised 1980.
- USGS, 1961. Topographic map, Palatine, IL, 7.5-minute quadrangle, photo-revised 1980.
- USGS, 1963a. Topographic map, Arlington Heights, IL, 7.5-minute quadrangle, photo-revised 1980.
- USGS, 1963b. Topographic map, Wheeling, IL, 7.5-minute quadrangle, photo-revised 1980.

USGS, 1991. Water Resources Data, Illinois, Water Year 1991.

Willman, H.B., 1971. Summary of the Geology of the Chicago Area: Illinois State Geological Survey, Circular 460.

Appendix A

Arlington Heights Municipal Landfill

Site 4-Mile Radius Map and 15-Mile Surface Water Route Map

SDMS US EPA Region V

Imagery Insert Form



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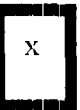
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Appendix A – 4-mile radius map & 15-mile surface water route map



Document is available at the EPA Region 5 Records Center.

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Appendix B

Arlington Heights Municipal Landfill

USEPA Form 2070-13



Site Inspection Report



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION

01 STATE IL 02 SITE NUMBER 984781526

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site) Arlington Heights Municipal Landfill		02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER Kennicott Avenue			
03 CITY Arlington Heights		04 STATE IL	05 ZIP CODE 60004	06 COUNTY Cook	07 COUNTY CODE 10
08 COORDINATES LATITUDE 42.08 46.0 LONGITUDE 088.59 46.0		10 TYPE OF OWNERSHIP (Check one) <input type="checkbox"/> A. PRIVATE <input type="checkbox"/> B. FEDERAL <input type="checkbox"/> C. STATE <input type="checkbox"/> D. COUNTY <input checked="" type="checkbox"/> E. MUNICIPAL <input type="checkbox"/> F. OTHER <input type="checkbox"/> G. UNKNOWN			

III. INSPECTION INFORMATION

01 DATE OF INSPECTION 04, 14, 93 MONTH DAY YEAR	02 SITE STATUS <input type="checkbox"/> ACTIVE <input checked="" type="checkbox"/> INACTIVE	03 YEARS OF OPERATION c. 1968 c. 1974 BEGINNING YEAR ENDING YEAR
04 AGENCY PERFORMING INSPECTION (Check all that apply) <input type="checkbox"/> A. EPA <input checked="" type="checkbox"/> B. EPA CONTRACTOR BVWST <input type="checkbox"/> C. MUNICIPAL <input type="checkbox"/> D. MUNICIPAL CONTRACTOR <input type="checkbox"/> E. STATE <input type="checkbox"/> F. STATE CONTRACTOR <input type="checkbox"/> G. OTHER		

05 CHIEF INSPECTOR John Quinn	06 TITLE Project Engineer	07 ORGANIZATION BVWST	08 TELEPHONE NO. (312) 346-3775
09 OTHER INSPECTORS Stephen Mehay	10 TITLE Project Scientist	11 ORGANIZATION BVWST	12 TELEPHONE NO. (312) 346-3775
Alison Cataldo	Technician	BVWST	(312) 346-3775
			()
			()
			()
13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
			()
			()
			()
			()
			()
			()

17 ACCESS GAINED BY (Check one) <input checked="" type="checkbox"/> PERMISSION <input type="checkbox"/> WARRANT		18 TIME OF INSPECTION 4/14-0800-2000 4/15-0800-1900	19 WEATHER CONDITIONS 4/14 - Breezy and overcast, about 40°F 4/15 - Rain, about 40° - 5/20 - sunny about 60°F
---	--	---	---

IV. INFORMATION AVAILABLE FROM

01 CONTACT Alan Altur	02 OF (Agency/Organization) USEPA	03 TELEPHONE NO. (312) 886-0390		
04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM Stephen Mehay	05 AGENCY USEPA	06 ORGANIZATION BVWST	07 TELEPHONE NO. (312) 346-3775	08 DATE 08, 10, 93 MONTH DAY YEAR



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 984781526

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply) <input checked="" type="checkbox"/> A. SOLID <input type="checkbox"/> B. POWDER, FINES <input type="checkbox"/> C. SLUDGE <input type="checkbox"/> D. OTHER _____ <input type="checkbox"/> E. SLURRY <input type="checkbox"/> F. LIQUID <input type="checkbox"/> G. GAS	02 WASTE QUANTITY AT SITE (Indicate if waste quantity has to be estimated) TONS <u>unknown</u> CUBIC YARDS <u>unknown</u> NO. OF DRUMS <u>unknown</u>	03 WASTE CHARACTERISTICS (Check all that apply) A. TOXIC B. CORROSIVE C. RADIOACTIVE <input checked="" type="checkbox"/> D. PERSISTENT E. SOLUBLE F. INFECTIOUS G. FLAMMABLE H. IGNITABLE I. HIGHLY VOLATILE J. EXPLOSIVE K. REACTIVE L. INCOMPATIBLE M. NOT APPLICABLE
--	--	--

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSO	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for full procedure to list CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/ DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION
MES	Aluminum	7429-90-5		8220	ppb
MES	Arsenic	7440-38-2		15	ppb
MES	Barium	7440-39-3		107	ppb
MES	Chromium	7440-47-3		13.5	ppb
MES	Cobalt	7440-48-4		11.1	ppb
MES	Copper	7440-50-8		30.5	ppb
MES	Lead	7439-92-1		29	ppb
MES	Manganese	7439-96-5		781	ppb
MES	Mercury	7439-97-6		0.2	ppm
MES	Nickel	7440-02-0		38.0	ppb
MES	Selenium	7782-49-2		0.7	ppm
MES	Vanadium	7440-62-2		21.7	ppb
MES	Zinc	7440-66-6		64.5	ppb
OCC	Fluoranthene	206-44-0		460	ppb
OCC	Pyrene	129-00-0		480	ppb
PDS	DDD	72-54-8		17	ppb

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (See Appendix for information on sources of information)

BWST SSI Report, 1993.





POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

1. IDENTIFICATION
01 STATE 02 SITE NUMBER
TLD 984781526

2. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION 02 ☒ OBSERVED (DATE 4/15/93) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 10,177 04 NARRATIVE DESCRIPTION

Arsenic was detected at 3 ppb in SSI sample GW02 in the glacial drift aquifer. The well is on the east side of the site. There are 10,177 potential users of the silurian dolomite aquifer within 4 miles.

01 ☐ B. SURFACE WATER CONTAMINATION 02 ☐ OBSERVED (DATE 4/15/93) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 04 NARRATIVE DESCRIPTION

Several metals, two semivolatiles and three pesticides were detected above background in samples taken from or near Buffalo Creek and an onsite pond. There are no water intakes within 15 miles of the site.

01 ☐ C. CONTAMINATION OF AIR 02 ☐ OBSERVED (DATE) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 52758 04 NARRATIVE DESCRIPTION

No air releases were detected at the landfill. 52,759 people reside within 4 miles of the site.

01 ☐ D. FIRE-EXPLOSIVE CONDITIONS 02 ☐ OBSERVED (DATE) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: NA 04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT 02 ☐ OBSERVED (DATE) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: NA 04 NARRATIVE DESCRIPTION

01 ☐ F. CONTAMINATION OF SOIL 02 ☐ OBSERVED (DATE) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: NA 04 NARRATIVE DESCRIPTION

01 ☐ G. DRINKING WATER CONTAMINATION 02 ☐ OBSERVED (DATE) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: (see groundwater contamination) 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY 02 ☐ OBSERVED (DATE) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: No workers on site. 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY 02 ☐ OBSERVED (DATE) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: NA 04 NARRATIVE DESCRIPTION



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
1LD 984781526

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

NA

01 ☐ K. DAMAGE TO FAUNA
04 NARRATIVE DESCRIPTION (Include names of species)

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

NA

01 ☒ L. CONTAMINATION OF FOOD CHAIN
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

It is assumed that the 15 mile downstream segments (Buffalo Creek, Wheeling Drainage ditch and Des Plaines River) are fisheries.

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES
(Soils/Runoff/Sludging liquids, Leaking drums)

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

03 POPULATION POTENTIALLY AFFECTED: _____

04 NARRATIVE DESCRIPTION

NA

01 ☐ N. DAMAGE TO OFFSITE PROPERTY
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

NA

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

NA

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING
04 NARRATIVE DESCRIPTION

02 ☐ OBSERVED (DATE: _____)

☐ POTENTIAL

☐ ALLEGED

NA

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

The landfill was alleged to have contaminated water that collected in IBT telephone vaults.

III. TOTAL POPULATION POTENTIALLY AFFECTED: 52,758

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., State law, sample analysis, reports)

BVWST SSI, 1993

IEPA, PA, 1990



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION

01 STATE | 02 SITE NUMBER
ILD | 984781526

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
<input type="checkbox"/> A. NPDES				
<input type="checkbox"/> B. UIC				
<input type="checkbox"/> C. AIR				
<input type="checkbox"/> D. RCRA				
<input type="checkbox"/> E. RCRA INTERIM STATUS				
<input type="checkbox"/> F. SPOC PLAN				
<input type="checkbox"/> G. STATE (Specify)				
<input type="checkbox"/> H. LOCAL (Specify)				
<input type="checkbox"/> I. OTHER (Specify)				
<input type="checkbox"/> J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE	04 TREATMENT (Check all that apply)	05 OTHER
<input type="checkbox"/> A. SURFACE IMPOUNDMENT			<input type="checkbox"/> A. INCINERATION	<input type="checkbox"/> A. BUILDINGS ON SITE
<input type="checkbox"/> B. PILES			<input type="checkbox"/> B. UNDERGROUND INJECTION	
<input type="checkbox"/> C. DRUMS, ABOVE GROUND			<input type="checkbox"/> C. CHEMICAL/PHYSICAL	
<input type="checkbox"/> D. TANK, ABOVE GROUND			<input type="checkbox"/> D. BIOLOGICAL	
<input type="checkbox"/> E. TANK, BELOW GROUND			<input type="checkbox"/> E. WASTE OIL PROCESSING	
<input checked="" type="checkbox"/> F. LANDFILL	18.3	Acres	<input type="checkbox"/> F. SOLVENT RECOVERY	06 AREA OF SITE
<input type="checkbox"/> G. LANDFARM			<input type="checkbox"/> G. OTHER RECYCLING/RECOVERY	54 acres (Acres)
<input type="checkbox"/> H. OPEN DUMP			<input type="checkbox"/> H. OTHER (Specify)	
<input type="checkbox"/> I. OTHER (Specify)				

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☒ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☐ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DRAINING, LINERS, BARRIERS ETC

The area is covered with between 3.5 and 9.5 feet of soil.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☐ YES ☒ NO

02 COMMENTS

The area is fenced and the landfill is covered.

VI. SOURCES OF INFORMATION (Check all that apply)

BVWST SSI, 1993



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 984781526

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY
(Check all applicable)

SURFACE WELL
COMMUNITY A. ☐ B. ☐
NON-COMMUNITY C. ☐ D. ☒

02 STATUS

ENDANGERED AFFECTED MONITORED
A. ☐ B. ☐ C. ☐
D. ☐ E. ☐ F. ☐

03 DISTANCE TO SITE

A. _____ (mi)
B. 0.25 (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)

☐ A. ONLY SOURCE FOR DRINKING ☒ B. DRINKING
(Other sources available)
COMMERCIAL, INDUSTRIAL, IRRIGATION
(No other water sources available)
☐ C. COMMERCIAL, INDUSTRIAL, IRRIGATION
(Limited other sources available)
☐ D. NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER 10,177

03 DISTANCE TO NEAREST DRINKING WATER WELL 0.25 (mi)

04 DEPTH TO GROUNDWATER

20 (ft)

05 DIRECTION OF GROUNDWATER FLOW

unknown

06 DEPTH TO AQUIFER
OF CONCERN

100 (ft)

07 POTENTIAL YIELD
OF AQUIFER

_____ (gpd)

08 SOLE SOURCE AQUIFER

☐ YES ☐ NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

Private wells are generally between 100 and 300 feet deep and use the silurian dolomite aquifer.

10 RECHARGE AREA

☐ YES COMMENTS
☐ NO

11 DISCHARGE AREA

☐ YES COMMENTS
☐ NO

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)

☐ A. RESERVOIR, RECREATION
DRINKING WATER SOURCE ☐ B. IRRIGATION, ECONOMICALLY
IMPORTANT RESOURCES ☐ C. COMMERCIAL, INDUSTRIAL ☐ D. NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Buffalo Creek	<input checked="" type="checkbox"/>	0 (mi)
Wheeling Drainage Ditch	<input type="checkbox"/>	6 (mi)
Des Plaines River	<input type="checkbox"/>	9 (mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. 2032 NO. OF PERSONS	B. 7672 NO. OF PERSONS	C. 24748 NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION

200 feet (ft)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE

2884

04 DISTANCE TO NEAREST OFF-SITE BUILDING

200 feet (ft)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

In the vicinity of the site are densely populated suburban areas.



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

1. IDENTIFICATION
01 STATE | 02 SITE NUMBER
ILD | 984781526

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☒ A. $10^{-8} - 10^{-6}$ cm/sec ☐ B. $10^{-6} - 10^{-5}$ cm/sec ☐ C. $10^{-5} - 10^{-3}$ cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-8} cm/sec) ☐ B. RELATIVELY IMPERMEABLE ($10^{-8} - 10^{-6}$ cm/sec) ☒ C. RELATIVELY PERMEABLE ($10^{-6} - 10^{-4}$ cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-4} cm/sec)

03 DEPTH TO BEDROCK

175 (ft)

04 DEPTH OF CONTAMINATED SOIL ZONE

none documented (ft)

05 SOIL TYPE

unknown

06 NET PRECIPITATION

5-15 inches (in)

07 ONE-INCH 24 HOUR RAINFALL

two 2.8 (in)

08 SLOPE

SITE SLOPE
unknown %

DIRECTION OF SITE SLOPE

unknown

TERRAIN AVERAGE SLOPE

unknown %

09 FLOOD POTENTIAL

SITE IS IN 7500 YEAR FLOODPLAIN

☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (1/2 mile minimum)

ESTUARINE

OTHER

A. (mi)

B. 0.5 (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

11.5 (mi)

ENDANGERED SPECIES: unknown

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL

RESIDENTIAL AREAS, NATIONAL/STATE PARKS,
FORESTS, OR WILDLIFE RESERVES

AGRICULTURAL LANDS
PRIME AG LAND AG LAND

A. 1500 feet (ft)

B. 200 feet (ft)

C. 74 mi (mi)

D. 74 mi (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

The landfill is the area with the most relief within 4 miles. Buffalo Creek is on the northwest side of the landfill and drains the area.

VII. SOURCES OF INFORMATION (Can include references to B. data and sample analysis results)

BVST SSI, 1993



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 6 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 984781526

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER	2TAL & TCL	USEPA Region V CRL	Presently
SURFACE WATER	4TAL & TCL	USEPA Region V CRL	Presently
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	3TAL & TCL	TAL - USEPA Region V CRL / TCL- Encotel	Presently
VEGETATION			
OTHER SEDIMENT	5TAL & TCL	TAL - USEPA Region V CRL / TCL-Analytical Resource	Presently

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
PID	No field screening instrument readings above background were recorded on the landfill or at any sampling location.

IV. PHOTOGRAPHS AND MAPS

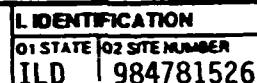
01 TYPE <input checked="" type="checkbox"/> GROUND <input type="checkbox"/> AERIAL	02 IN CUSTODY OF BVWST <small>Name of organization or individual</small>
03 MAPS <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	04 LOCATION OF MAPS BVWST SSI Report

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

NA

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis reports)

BVWST SSI, 1993



PARENT COMPANY - **AMERICAN**

III. PREVIOUS OWNER(S) (Last owner record only)				IV. REALTY OWNER(S) (If applicable; last owner record only)			
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	
01 NAME		02 D+B NUMBER		01 NAME		02 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE	
05 CITY	06 STATE	07 ZIP CODE		05 CITY	06 STATE	07 ZIP CODE	

BVWST SSI, 1993



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. CURRENT OPERATOR (Provide if different from owner)				OPERATOR'S PARENT COMPANY (If applicable)			
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER					
III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)				PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)			
01 NAME NA		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
01 NAME		02 D+B NUMBER		10 NAME		11 D+B NUMBER	
03 STREET ADDRESS (P.O. Box, RFD #, etc.)		04 SIC CODE		12 STREET ADDRESS (P.O. Box, RFD #, etc.)		13 SIC CODE	
05 CITY		06 STATE	07 ZIP CODE	14 CITY		15 STATE	16 ZIP CODE
08 YEARS OF OPERATION		09 NAME OF OWNER DURING THIS PERIOD					
IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, authors, analysis, reports)							



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE
05 CITY	06 STATE 07 ZIP CODE	05 CITY	06 STATE 07 ZIP CODE

V. SOURCES OF INFORMATION (List sources of information, e.g., State Reg. Agency, etc., in this space)



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

L. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ S. CAPPING/COVERING
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ T. BULK TANKAGE REPAIRED
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ U. GROUT CURTAIN CONSTRUCTED
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ V. BOTTOM SEALED
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ W. GAS CONTROL
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ X. FIRE CONTROL
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ Y. LEACHATE TREATMENT
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ Z. AREA EVACUATED
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ 1. ACCESS TO SITE RESTRICTED
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ 2. POPULATION RELOCATED
04 DESCRIPTION

02 DATE

03 AGENCY

01 ☐ 3. OTHER REMEDIAL ACTIVITIES
04 DESCRIPTION

02 DATE

03 AGENCY

III. SOURCES OF INFORMATION (Cite specific references, e.g., State files, sample analysis, reports)



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

L IDENTIFICATION
01 STATE 02 SITE NUMBER

L PAST RESPONSE ACTIVITIES

01 <input type="checkbox"/> A. WATER SUPPLY CLOSED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> B. TEMPORARY WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> C. PERMANENT WATER SUPPLY PROVIDED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> D. SPILLED MATERIAL REMOVED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> E. CONTAMINATED SOIL REMOVED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> F. WASTE REPACKAGED 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> G. WASTE DISPOSED ELSEWHERE 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> H. ON SITE BURIAL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> I. IN SITU CHEMICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> J. IN SITU BIOLOGICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> K. IN SITU PHYSICAL TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> L. ENCAPSULATION 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> M. EMERGENCY WASTE TREATMENT 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> N. CUTOFF WALLS 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> O. EMERGENCY DRAINING/SURFACE WATER DIVERSION 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> P. CUTOFF TRENCHES/SUMP 04 DESCRIPTION	02 DATE _____	03 AGENCY _____
01 <input type="checkbox"/> Q. SUBSURFACE CUTOFF WALL 04 DESCRIPTION	02 DATE _____	03 AGENCY _____



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION

01 STATE 02 SITE NUMBER

II. PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R. BARRIER WALLS CONSTRUCTED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ S. CAPPING/COVERING
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ T. BULK TANKAGE REPAIRED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ U. GROUT CURTAIN CONSTRUCTED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ V. BOTTOM SEALED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ W. GAS CONTROL
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ X. FIRE CONTROL
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ Y. LEACHATE TREATMENT
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ Z. AREA EVACUATED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ 1. ACCESS TO SITE RESTRICTED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ 2. POPULATION RELOCATED
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

01 ☐ 3. OTHER REMEDIAL ACTIVITIES
04 DESCRIPTION

02 DATE _____

03 AGENCY _____

III. SOURCES OF INFORMATION (Cite specific references, e.g., State laws, bottom analysis, records)



POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION

01 STATE 02 SITE NUMBER
ILD 984781526

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY/ENFORCEMENT ACTION ☒ YES ☐ NO

02 DESCRIPTION OF FEDERAL STATE LOCAL REGULATORY/ENFORCEMENT ACTION

Summary of Onsite Environmental Work

IEPA observed leachate seeps at undocumented locations at the landfill in 1972, 1978, 1979, and 1984 (IEPA, 1989b). Only the 1984 seep was sampled.

During a December 16, 1975, IEPA inspection, approximately 100, 55-gallon drums were observed at the southwestern corner of the landfill, near the water tank (IEPA, 1989a 1989b). Most drums appeared empty. Labels were observed on the drums (AERO Shell Fluid #4, Dupont Fluor Carbon TF & TE solvent, and light Cy.

The AHML was listed on the CERCLIS list in February 1990. A second PA was performed in August 1990 by IEPA, resulting in a medium priority recommendation for further investigation (IEPA, 1990).

III. SOURCES OF INFORMATION (CERCLA/RCRA RESPONSE ACTION REPORT, STATE AND FEDERAL AGENCY REPORTS)

IEPA Complaint Investigation, 1989a
IEPA Memo, 1989b
IEPA PA, 1990

Appendix C

Arlington Heights Municipal Landfill

Target Compound List and Target Analyte List

Target Compound List

Volatiles

Chloromethane	1,2-Dichloropropane
Bromomethane	Cis-1,3-Dichloropropene
Vinyl Chloride	Trichloroethene
Chloroethane	Dibromochloromethane
Methylene Chloride	1,1,2-Trichloroethane
Acetone	Benzene
Carbon Disulfide	trans-1,3-Dichloropropane
1,1-Dichloroethene	Bromoform
1,1-Dichloroethane	4-Methyl-2-pentanone
1,2-Dichloroethene (total)	2-Hexanone
Chloroform	Tetrachloroethene
1,2-Dichloroethane	Toluene
2-Butanone	1,1,2,2-Tetrachloroethane
1,1,1-Trichloroethane	Chlorobenzene
Carbon Tetrachloride	Ethyl benzene
Bromodichloromethane	Styrene
	Xylenes (total)

Source: Target Compound List for water and soil with low or medium levels of volatile and semi-volatile organic contaminants, as shown in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, B&V Waste Science and Technology Corp. (BVWST), September 27, 1991.

Target Compound List (Continued)

Semi-Volatiles

Phenol	Acenaphthene
bis(2-Chloroethyl) ether	2,4-Dinitrophenol
2-Chlorophenol	4-Nitrophenol
1,3-Dichlorobenzene	Dibenzofuran
1,4-Dichlorobenzene	2,4-Dinitrotoluene
1,2-Dichlorobenzene	Diethylphthalate
2-Methylphenol	4-Chlorophenyl-phenyl ether
2,2'-oxybis-(1-Chloropropane)	Fluorene
4-Methylphenol	4-Nitroaniline
N-Nitroso-di-n-dipropylamine	4,6-Dinitro-2-methylphenol
Hexachloroethane	N-Nitrosodiphenylamine
Nitrobenzene	4-Bromophenyl-phenyl ether
Isophorone	Hexachlorobenzene
2-Nitrophenol	Pentachlorophenol
2,4-Dimethylphenol	Phenanthrene
bis(2-Chloroethoxy) methane	Anthracene
2,4-Dichlorophenol	Carbazole
1,2,4-Trichlorobenzene	Di-n-butylphthalate
Naphthalene	Fluoranthene
4-Chloroaniline	Pyrene
Hexachlorobutadiene	Butyl benzyl phthalate
4-Chloro-3-methylphenol	3,3-Dichlorobenzidine
2-Methylnaphthalene	Benzo(a)anthracene
Hexachlorocyclopentadiene	Chrysene
2,4,6-Trichlorophenol	bis(2-Ethylhexyl)phthalate
2,4,5-Trichlorophenol	Di-n-Octylphthalate
2-Chloronaphthalene	Benzo(b)fluoranthene
2-Nitroaniline	Benzo(k)fluoranthene
Dimethylphthalate	Benzp(a)pyrene
Acenaphthylene	Indeno(1,2,3-cd)pyrene
2,6-Dinitrotoluene	Dibenzo(a,h)anthracene
3-Nitroaniline	Benzo(g,h,i)perylene

Source: Target Compound List for water and soil with low or medium levels of volatile and semi-volatile organic contaminants, as shown in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, BVWST, September 27, 1991.

Target Compound List (Continued)

Pesticide/PCB

alpha-BHC	4,4-DDT
beta-BHC	Methoxychlor
delta-BHC	Endrin ketone
gamma-BHC (Lindane)	Endrin aldehyde
Heptachlor	alpha-chlordane
Aldrin	gamma-chlordane
Heptachlor epoxide	Toxaphene
Endosulfan I	Aroclor-1016
Dieldrin	Aroclor-1221
4,4-DDE	Aroclor-1232
Endrin	Aroclor-1242
Endosulfan II	Aroclor-1248
4,4-DDD	Aroclor-1254
Endosulfan sulfate	Aroclor-1260

Source: Target Compound List for water and soil containing less than high concentrations of pesticides/aroclor, as shown in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, BVWST, September 27, 1991.

Target Analyte List

Aluminum	Magnesium
Antimony	Manganese
Arsenic	Mercury
Barium	Nickel
Beryllium	Potassium
Cadmium	Selenium
Calcium	Silver
Chromium	Sodium
Cobalt	Thallium
Copper	Vanadium
Iron	Zinc
Lead	Cyanide

Source: Target Analyte List in the Quality Assurance Project Plan for Region V Superfund Site Assessment Program, BVWST, September 27, 1991.

Appendix D
Arlington Heights Municipal Landfill
Analytical Results

Volatile Organic Analysis for Groundwater Samples
Arlington Heights Municipal Landfill

Volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/L}$	
	GW01	GW02
Dichlorodifluoromethane	3 U	3 U
Chloromethane	3 U	3 U
Vinyl Chloride	3 U	3 U
Bromomethane	3 U	3 U
Chloroethane	3 U	3 U
Trichlorofluoromethane	3 U	3 U
Acrolein	10 U	10 U
1,1-Dichloroethene	2 U	2 U
Acetone	10 U	11 U
Carbon Disulfide	2 U	1 U
Methylene Chloride	2 U	2 U
trans-1,2-Dichloroethene	2 U	2 U
Acrylonitrile	10 U	10 U
1,1-Dichloroethane	2 U	2 U
Vinylacetate	10 U	10 U
2,2-Dichloropropane	2 U	2 U
cis-1,2-Dichloroethene	2 U	2 U
2-Butanone	10 U	10 U
Bromochloromethane	2 U	2 U
Chloroform	2 U	2 U
1,1,1-Trichloroethane	2 U	2 U
Carbon Tetrachloride	2 U	2 U
1,1-Dichloropropene	2 U	2 U
Benzene	2 U	2 U
1,2-Dichloroethane	10 U	11 U
Trichloroethene	2 U	2 U
1,2-Dichloropropane	2 U	2 U
Dibromomethane	2 U	2 U
2-Chloroethyl vinylether	10 U	10 U
Bromodichloromethane	2 U	2 U
cis-1,3-Dichloropropene	2 U	2 U
Toluene	2 U	2 U
4-Methyl-2-Pentanone	5 U	5 U
trans-1,3-Dichloropropene	2 U	2 U
Tetrachloroethene	2 U	2 U
1,1,2-Trichloroethane	2 U	2 U
1,3-Dichloropropane	2 U	2 U
2-Hexanone	5 U	5 U
Dibromochloromethane	2 U	2 U
1,2-Dibromoethane	2 U	2 U
Chlorobenzene	2 U	2 U
1,1,1,2-Tetrachloroethane	2 U	2 U
Ethylbenzene	2 U	2 U
m &/or p-Xylene	2 U	2 U
o-xylene	2 U	2 U
Styrene	2 U	2 U
Bromoform	2 U	2 U
Isopropylbenzene	2 U	2 U
Bromobenzene	2 U	2 U
1,2,3-Trichloropropane	2 U	2 U
1,1,2,2-Tetrachloroethane	2 U	2 U

**Volatile Organic Analysis for Groundwater Samples
Arlington Heights Municipal Landfill**

Volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/L}$	
	GW01	GW02
n-Propylbenzene	2 U	2 U
2-Chlorotoluene	2 U	2 U
4-Chlorotoluene	2 U	2 U
1,3,5-Trimethylbenzene	2 U	2 U
tert-Butylbenzene	2 U	2 U
1,2,4-Trimethylbenzene	2 U	2 U
sec-Butylbenzene	2 U	2 U
1,3-Dichlorobenzene	2 U	2 U
1,4-Dichlorobenzene	2 U	2 U
p-Isopropyltoluene	2 U	2 U
1,2-Dichlorobenzene	2 U	2 U
n-Butylbenzene	2 U	2 U
1,2-Dibromo-3-chloropropane	2 U	2 U
1,2,4-Trichlorobenzene	2 U	2 U
Naphthalene	2 U	2 U
Hexachlorobutadiene	2 U	2 U
1,2,3-Trichlorobenzene	2 U	2 U
Total Number of TICs *	2	1

NOTE: * - Number, not concentrations, of tentatively identified compounds (TICs) found in each sample.

Volatile Organic Analysis for Groundwater Samples
Tentatively Identified Compounds
Arlington Heights Municipal Landfill
Concentrations in $\mu\text{g/L}$

Sample GW01

Compound Name	Retention Time	Estimated Concentration
Unknown	11.46	3 J
Ethane, 1-bromo-2-chloro	15.46	5 U

Sample GW02

Compound Name	Retention Time	Estimated Concentration
Ethane, 1-bromo-2-chloro	15.46	5 U

Semi-volatile Organic Analysis for Groundwater Samples
Arlington Heights Municipal Landfill

Semi-volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/L}$	
	GW01	GW02
Phenol	2 U	2 U
bis(2-Chloroethyl)Ether	2 U	2 U
2-Chlorophenol	2 U	2 U
1,3-Dichlorobenzene	2 U	2 U
1,4-Dichlorobenzene	2 U	2 U
Benzyl alcohol	2 U	2 U
1,2-Dichlorobenzene	3 U	3 U
2-Methylphenol	1 U	1 U
bis(2-chloroisopropyl)ether	3 U	3 U
4-Methylphenol	1 U	1 U
N-Nitroso-Di-n-propylamine	2 U	2 U
Hexachloroethane	2 U	2 U
Nitrobenzene	3 U	3 U
Isophorone	3 U	3 U
2-Nitrophenol	2 U	2 U
2,4-Dimethylphenol	2 U	2 U
Benzoic acid	30 U	30 U
bis(2-Chloroethoxy)Methane	3 U	3 U
2,4-Dichlorophenol	2 U	2 U
1,2,4-Trichlorobenzene	2 U	2 U
Naphthalene	2 U	2 U
4-Chloroaniline	2 U	2 U
Hexachlorobutadiene	3 U	3 U
4-Chloro-3-Methylphenol	2 U	2 U
2-Methylnaphthalene	2 U	2 U
Hexachlorocyclopentadiene	2 U	2 U
2,4,6-Trichlorophenol	2 U	2 U
2,4,5-Trichlorophenol	2 U	2 U
2-Chloronaphthalene	2 U	2 U
2-Nitroaniline	3 U	3 U
Dimethylphthalate	2 U	2 U
Acenaphthylene	2 U	2 U
2,6-Dinitrotoluene	1 U	1 U
3-Nitroaniline	3 U	3 U

Semi-volatile Organic Analysis for Groundwater Samples
Arlington Heights Municipal Landfill

Semi-volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/L}$	
	GW01	GW02
Acenaphthene	2 U	2 U
2,4-Dinitrophenol	15 U	15 U
4-Nitrophenol	2 U	2 U
Dibenzofuran	1 U	1 U
2,4-Dinitrotoluene	1 U	1 U
Diethylphthalate	1 U	1 U
4-Chlorophenyl-phenylether	1 U	1 U
Fluorene	1 U	1 U
4-Nitroaniline	3 U	3 U
4,6-Dinitro-2-Methylphenol	15 U	15 U
n-Nitrosodiphenylamine	2 U	2 U
4-Bromophenyl-phenylether	2 U	2 U
Hexachlorobenzene	2 U	2 U
Pentachlorophenol	2 U	2 U
Phenanthrene	1 U	1 U
Anthracene	3 U	3 U
di-n-Butylphthalate	2 U	2 U
Fluoranthene	2 U	2 U
Pyrene	2 U	2 U
Butylbenzylphthalate	4 U	4 U
Benzo(a)Anthracene	2 U	2 U
Chrysene	2 U	2 U
bis(2-Ethylhexyl)Phthalate	2 U	2 U
di-n-Octylphthalate	2 U	2 U
Benzo(b)Fluoranthene	2 U	2 U
Benzo(k)Fluoranthene	2 U	2 U
Benzo(a)Pyrene	2 U	2 U
Indeno(1,2,3-cd)Pyrene	4 U	4 U
Dibenzo(a,h)Anthracene	3 U	3 U
Benzo(g,h,i)Perylene	4 U	4 U
Total Number of TICs *	0	0

NOTE: * - Number, not concentrations, of tentatively identified compounds (TICs) found in each sample.

**Pesticide and PCB Analysis for Groundwater Samples
Arlington Heights Municipal Landfill**

Pesticide/PCB	Sample Location and Number Concentrations in $\mu\text{g/L}$	
	GW01	GW02
Alpha-BHC	0.020 U	0.020 U
Beta-BHC	0.020 U	0.020 U
Delta-BHC	0.020 U	0.020 U
Gamma-BHC (Lindane)	0.020 U	0.020 U
Heptachlor	0.030 U	0.030 U
Aldrin	0.020 U	0.020 U
Heptachlor Epoxide	0.010 U	0.010 U
Endosulfan I	0.010 U	0.010 U
Dieldrin	0.010 U	0.010 U
4,4'-DDE	0.020 U	0.020 U
Endrin	0.010 U	0.010 U
Endosulfan II	0.010 U	0.010 U
4,4'-DDD	0.040 U	0.040 U
Endosulfan Sulfate	0.13 U	0.13 U
4,4'-DDT	0.020 U	0.020 U
Methoxychlor	0.020 U	0.020 U
Endrin Ketone	0.030 U	0.030 U
Endrin Aldehyde	0.050 U	0.050 U
Alpha-Chlordane	0.025 U	0.025 U
Gamma-Chlordane	0.025 U	0.025 U
Toxaphene	1.0 U	1.0 U
Aroclor-1016	0.20 U	0.20 U
Aroclor-1221	0.20 U	0.20 U
Aroclor-1232	0.20 U	0.20 U
Aroclor-1242	0.20 U	0.20 U
Aroclor-1248	0.20 U	0.20 U
Aroclor-1254	0.20 U	0.20 U
Aroclor-1260	0.20 U	0.20 U

**Inorganic Analysis for Groundwater Samples
Arlington Municipal Heights Landfill**

Metals and Cyanide	Sample Locations and Number Concentrations in $\mu\text{g/L}$	
	GW01	GW02
Aluminum	98.0 U	98.0 U
Antimony	12	10
Arsenic	2 U	3
Barium	43.8	62.6
Beryllium	1.0 U	1.0 U
Cadmium	0.2 U	0.2 U
Calcium	161000	110000
Chromium	10.0 U	10.0 U
Cobalt	7.0 U	7.0 U
Copper	7.0 U	7.0 U
Iron	3510	98.0 U
Lead	2 U	2 U
Magnesium	64400	55600
Manganese	186	50.0
Mercury	0.1 UJ	0.1 UJ
Nickel	18.0 U	18.0 U
Potassium	6100 U	6100 U
Selenium	2 U	2 U
Silver	7.0 U	7.0 U
Sodium	58600	40500
Thallium	2 U	2 U
Vanadium	6.0 U	6.0 U
Zinc	49.0 U	49.0
Cyanide	8 U	8 U

Volatile Organic Analysis for Surface Water Samples
Arlington Heights Municipal Landfill

Volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/L}$			
	SW01	SW02	SW03	SW04
Dichlorodifluoromethane	3 U	3 U	3 U	3 U
Chloromethane	3 U	3 U	3 U	2 U
Vinyl Chloride	3 U	3 U	3 U	3 U
Bromomethane	3 U	3 U	3 U	3 U
Chloroethane	3 U	3 U	3 U	3 U
Trichlorofluoromethane	3 U	3 U	3 U	3 U
Acrolein	10 U	10 U	10 U	10 U
1,1-Dichloroethene	2 U	2 U	2 U	2 U
Acetone	10 U	10 U	13 U	10 U
Carbon Disulfide	2 U	2 U	2 U	2 U
Methylene Chloride	2 U	2 U	2 U	2 U
trans-1,2-Dichloroethene	2 U	2 U	2 U	2 U
Acrylonitrile	10 U	10 U	10 U	10 U
1,1-Dichloroethane	2 U	2 U	2 U	2 U
Vinylacetate	10 U	10 U	10 U	10 U
2,2-Dichloropropane	2 U	2 U	2 U	2 U
cis-1,2-Dichloroethene	2 U	2 U	2 U	2 U
2-Butanone	10 U	10 U	10 U	10 U
Bromochloromethane	2 U	2 U	2 U	2 U
Chloroform	2 U	2 U	2 U	2 U
1,1,1-Trichloroethane	2 U	2 U	2 U	2 U
Carbon Tetrachloride	2 U	2 U	2 U	2 U
1,1-Dichloropropene	2 U	2 U	2 U	2 U
Benzene	2 U	2 U	2 U	2 U
1,2-Dichloroethane	9 U	10 U	11 U	13 U
Trichloroethene	2 U	2 U	2 U	2 U
1,2-Dichloropropane	2 U	2 U	2 U	2 U
Dibromomethane	2 U	2 U	2 U	2 U
2-Chloroethyl vinylether	10 U	10 U	10 U	10 U
Bromodichloromethane	2 U	2 U	2 U	2 U
cis-1,3-Dichloropropene	2 U	2 U	2 U	2 U
Toluene	2 U	2 U	2 U	2 U
4-Methyl-2-Pentanone	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	2 U	2 U	2 U	2 U

Volatile Organic Analysis for Surface Water Samples
Arlington Heights Municipal Landfill

Volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/L}$			
	SW01	SW02	SW03	SW04
Tetrachloroethene	2 U	2 U	2 U	2 U
1,1,2-Trichloroethane	2 U	2 U	2 U	2 U
1,3-Dichloropropane	2 U	2 U	2 U	2 U
2-Hexanone	5 U	5 U	5 U	5 U
Dibromochloromethane	2 U	2 U	2 U	2 U
1,2-Dibromoethane	2 U	2 U	2 U	2 U
Chlorobenzene	2 U	2 U	2 U	2 U
1,1,1,2-Tetrachloroethane	2 U	2 U	2 U	2 U
Ethylbenzene	2 U	2 U	2 U	2 U
m &/or p-Xylene	2 U	2 U	2 U	2 U
o-xylene	2 U	2 U	2 U	2 U
Styrene	2 U	2 U	2 U	2 U
Bromoform	2 U	2 U	2 U	2 U
Isopropylbenzene	2 U	2 U	2 U	2 U
Bromobenzene	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane	2 U	2 U	2 U	2 U
1,1,2,2-Tetrachloroethane	2 U	2 U	2 U	2 U
n-Propylbenzene	2 U	2 U	2 U	2 U
2-Chlorotoluene	2 U	2 U	2 U	2 U
4-Chlorotoluene	2 U	2 U	2 U	2 U
1,3,5-Trimethylbenzene	2 U	2 U	2 U	2 U
tert-Butylbenzene	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene	2 U	2 U	2 U	2 U
sec-Butylbenzene	2 U	2 U	2 U	2 U
1,3-Dichlorobenzene	2 U	2 U	2 U	2 U
1,4-Dichlorobenzene	2 U	2 U	2 U	2 U
p-Isopropyltoluene	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	2 U	2 U	2 U	2 U
n-Butylbenzene	2 U	2 U	2 U	2 U
1,2-Dibromo-3-chloropropane	2 U	2 U	2 U	2 U
1,2,4-Trichlorobenzene	2 U	2 U	2 U	2 U
Naphthalene	2 U	2 U	2 U	2 U
Hexachlorobutadiene	2 U	2 U	2 U	2 U
1,2,3-Trichlorobenzene	2 U	2 U	2 U	2 U
Total Number of TICs *	1	1	3	3

NOTE: * - Number, not concentrations, of tentatively identified compounds (TICs) found in each sample.

Volatile Organic Analysis for Surface Water Samples
Tentatively Identified Compounds
Arlington Heights Municipal Landfill
Concentrations in $\mu\text{g/L}$

Sample SW01

Compound Name	Retention Time	Estimated Concentration
Ethane, 1-bromo-2-chloro	15.48	5 U

Sample SW02

Compound Name	Retention Time	Estimated Concentration
Ethane, 1-bromo-2-chloro	15.47	5 J

Sample SW03

Compound Name	Retention Time	Estimated Concentration
Unknown	3.65	7 J
Unknown	11.45	21 J
Ethane, 1-bromo-2-chloro	15.46	5 U

Sample SW04

Compound Name	Retention Time	Estimated Concentration
Unknown	3.66	4 J
Unknown	11.46	15 J
Ethane, 1-bromo-2-chloro	15.46	7 U

Semi-volatile Organic Analysis for Surface Water Samples
Arlington Heights Municipal Landfill

Semi-volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/L}$			
	SW01	SW02	SW03	SW04
Phenol	2 U	2 U	2 U	2 U
bis(2-Chloroethyl)Ether	2 U	2 U	2 U	2 U
2-Chlorophenol	2 U	2 U	2 U	2 U
1,3-Dichlorobenzene	2 U	2 U	2 U	2 U
1,4-Dichlorobenzene	2 U	2 U	2 U	2 U
Benzyl alcohol	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	3 U	3 U	3 U	3 U
2-Methylphenol	1 U	1 U	1 U	1 U
bis(2-chloroisopropyl)ether	3 U	3 U	3 U	3 U
4-Methylphenol	1 U	1 U	1 U	1 U
N-Nitroso-Di-n-propylamine	2 U	2 U	2 U	2 U
Hexachloroethane	2 U	2 U	2 U	2 U
Nitrobenzene	3 U	3 U	3 U	3 U
Isophorone	3 U	3 U	3 U	3 U
2-Nitrophenol	2 U	2 U	2 U	2 U
2,4-Dimethylphenol	2 U	2 U	2 U	2 U
Benzoic acid	30 U	30 U	30 U	30 U
bis(2-Chloroethoxy)Methane	3 U	3 U	3 U	3 U
2,4-Dichlorophenol	2 U	2 U	2 U	2 U
1,2,4-Trichlorobenzene	2 U	2 U	2 U	2 U
Naphthalene	2 U	2 U	2 U	2 U
4-Chloroaniline	2 U	2 U	2 U	2 U
Hexachlorobutadiene	3 U	3 U	3 U	3 U
4-Chloro-3-Methylphenol	2 U	2 U	2 U	2 U
2-Methylnaphthalene	2 U	2 U	2 U	2 U
Hexachlorocyclopentadiene	2 U	2 U	2 U	2 U
2,4,6-Trichlorophenol	2 U	2 U	2 U	2 U
2,4,5-Trichlorophenol	2 U	2 U	2 U	2 U
2-Chloronaphthalene	2 U	2 U	2 U	2 U
2-Nitroaniline	3 U	3 U	3 U	3 U
Dimethylphthalate	2 U	2 U	2 U	2 U
Acenaphthylene	2 U	2 U	2 U	2 U
2,6-Dinitrotoluene	1 U	1 U	1 U	1 U
3-Nitroaniline	3 U	3 U	3 U	3 U

**Semi-volatile Organic Analysis for Surface Water Samples
Arlington Heights Municipal Landfill**

Semi-volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/L}$			
	SW01	SW02	SW03	SW04
Acenaphthene	2 U	2 U	2 U	2 U
2,4-Dinitrophenol	15 U	15 U	15 U	15 U
4-Nitrophenol	2 U	2 U	2 U	2 U
Dibenzofuran	1 U	1 U	1 U	1 U
2,4-Dinitrotoluene	1 U	1 U	1 U	1 U
Diethylphthalate	1 U	1 U	1 U	1 U
4-Chlorophenyl-phenylether	1 U	1 U	1 U	1 U
Fluorene	1 U	1 U	1 U	1 U
4-Nitroaniline	3 U	3 U	3 U	3 U
4,6-Dinitro-2-Methylphenol	15 U	15 U	15 U	15 U
n-Nitrosodiphenylamine	2 U	2 U	2 U	2 U
4-Bromophenyl-phenylether	2 U	2 U	2 U	2 U
Hexachlorobenzene	2 U	2 U	2 U	2 U
Pentachlorophenol	2 U	2 U	2 U	2 U
Phenanthrene	1 U	1 U	1 U	1 U
Anthracene	3 U	3 U	3 U	3 U
di-n-Butylphthalate	2 U	2 U	2 U	2 U
Fluoranthene	2 U	2 U	2 U	2 U
Pyrene	2 U	2 U	2 U	2 U
Butylbenzylphthalate	4 U	4 U	4 U	4 U
Benzo(a)Anthracene	2 U	2 U	2 U	2 U
Chrysene	2 U	2 U	2 U	2 U
bis(2-Ethylhexyl)Phthalate	0.9 J	2 U	0.7 J	2 U
di-n-Octylphthalate	2 U	2 U	2 U	2 U
Benzo(b)Fluoranthene	2 U	2 U	2 U	2 U
Benzo(k)Fluoranthene	2 U	2 U	2 U	2 U
Benzo(a)Pyrene	2 U	2 U	2 U	2 U
Indeno(1,2,3-cd)Pyrene	4 U	4 U	4 U	4 U
Dibenzo(a,h)Anthracene	3 U	3 U	3 U	3 U
Benzo(g,h,i)Perylene	4 U	4 U	4 U	4 U
Total Number of TICs *	0	0	0	0

NOTE: * - Number, not concentrations, of tentatively identified compounds (TICs) found in each sample.

**Pesticide and PCB Analysis for Surface Water Samples
Arlington Heights Municipal Landfill**

Pesticide/PCB	Sample Location and Number Concentrations in $\mu\text{g/L}$			
	SW01	SW02	SW03	SW04
Alpha-BHC	0.020 U	0.020 U	0.020 U	0.020 U
Beta-BHC	0.020 U	0.020 U	0.020 U	0.020 U
Delta-BHC	0.020 U	0.020 U	0.020 U	0.020 U
Gamma-BHC (Lindane)	0.020 U	0.020 U	0.020 U	0.020 U
Heptachlor	0.030 U	0.030 U	0.030 U	0.030 U
Aldrin	0.020 U	0.020 U	0.020 U	0.020 U
Heptachlor Epoxide	0.010 U	0.010 U	0.010 U	0.010 U
Endosulfan I	0.010 U	0.010 U	0.010 U	0.010 U
Dieldrin	0.010 U	0.010 U	0.010 U	0.010 U
4,4'-DDE	0.020 U	0.020 U	0.020 U	0.020 U
Endrin	0.010 U	0.010 U	0.010 U	0.010 U
Endosulfan II	0.010 U	0.010 U	0.010 U	0.010 U
4,4'-DDD	0.040 U	0.040 U	0.040 U	0.040 U
Endosulfan Sulfate	0.13 U	0.13 U	0.13 U	0.13 U
4,4'-DDT	0.020 U	0.020 U	0.020 U	0.020 U
Methoxychlor	0.020 U	0.020 U	0.020 U	0.020 U
Endrin Ketone	0.030 U	0.030 U	0.030 U	0.030 U
Endrin Aldehyde	0.050 U	0.050 U	0.050 U	0.050 U
Alpha-Chlordane	0.025 U	0.025 U	0.025 U	0.025 U
Gamma-Chlordane	0.025 U	0.025 U	0.025 U	0.025 U
Toxaphene	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1016	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1221	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1232	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1242	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1248	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1254	0.20 U	0.20 U	0.20 U	0.20 U
Aroclor-1260	0.20 U	0.20 U	0.20 U	0.20 U

Inorganic Analysis for Surface Water Samples
Arlington Heights Municipal Landfill

Metals and Cyanide	Sample Locations and Number Concentrations in $\mu\text{g/L}$			
	SW01	SW02	SW03	SW04
Aluminum	217	223	3300	8220
Antimony	2 U	2 U	2 U	2 U
Arsenic	2	2 U	5	15
Barium	35.2	35.1	55.6	107
Beryllium	1.0 U	1.0 U	1.0 U	1.0 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	75900	75100	85800	160000
Chromium	10.0 U	10.0 U	10.0 U	13.5
Cobalt	7.0 U	7.0 U	7.0 U	11.1
Copper	7.0 U	7.1	18.8	30.5
Iron	494	491	6300	16000
Lead	3	2 U	17	29
Magnesium	32400	31900	51600	85000
Manganese	98.4	102	186	781
Mercury	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ
Nickel	19.5	18.0 U	18.0 U	38.0
Potassium	6100 U	6100 U	6100 U	6100 U
Selenium	2 U	2 U	2 U	2 U
Silver	7.0 U	7.0 U	7.0 U	7.0 U
Sodium	115000	114000	57300	49500
Thallium	2 U	2 U	2 U	2 U
Vanadium	6.0 U	6.0 U	7.9	21.7
Zinc	49.0 U	49.0 U	49.0 U	64.5
Cyanide	8 U	8 U	8 U	8 U

**Volatile Organic Analysis for Sediment Samples
Arlington Heights Municipal Landfill**

Volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/kg}$				
	ST01	ST02	ST03	ST04	ST05
Chloromethane	15 UJ	13 UJ	16 UJ	14 UJ	15 U
Bromomethane	15 U	13 U	16 U	14 U	15 U
Vinyl Chloride	15 U	13 U	16 U	14 U	15 U
Chloroethane	15 U	13 U	16 U	14 U	15 U
Methylene Chloride	15 U	13 U	16 U	14 U	15 U
Acetone	33 BU	13 U	16 U	20 BU	15 U
Carbon Disulfide	15 U	13 U	16 U	14 U	15 U
1,1-Dichloroethene	15 U	13 U	16 U	14 U	15 U
1,1-Dichloroethane	15 U	13 U	16 U	14 U	15 U
1,2-Dichloroethene (total)	15 U	13 U	16 U	14 U	15 U
Chloroform	15 U	13 U	16 U	14 U	15 U
1,2-Dichloroethane	15 U	13 U	16 U	14 U	15 U
2-Butanone	15 U	13 U	16 U	14 U	15 U
1,1,1-Trichloroethane	15 U	13 U	16 U	14 U	15 UJ
Carbon Tetrachloride	15 U	13 U	16 U	14 U	15 UJ
Bromodichloromethane	15 U	13 U	16 U	14 U	15 UJ
1,2-Dichloropropane	15 U	13 U	16 U	14 U	15 UJ
cis-1,3-Dichloropropene	15 U	13 U	16 U	14 U	15 UJ
Trichloroethene	15 U	13 U	16 U	14 U	15 UJ
Dibromochloromethane	15 U	13 U	16 U	14 U	15 UJ
1,1,2-Trichloroethane	15 U	13 U	16 U	14 U	15 UJ
Benzene	15 U	13 U	16 U	14 U	15 UJ
trans-1,3-Dichloropropene	15 U	13 U	16 U	14 U	15 UJ
Bromoform	15 U	13 U	16 U	14 U	15 U
4-Methyl-2-Pentanone	15 U	13 U	16 U	14 U	15 UJ
2-Hexanone	15 U	13 U	16 U	14 U	15 UJ
Tetrachloroethene	15 U	13 U	16 U	14 U	15 UJ
1,1,2,2-Tetrachloroethane	15 U	13 U	16 U	14 U	15 UJ
Toluene	15 U	13 U	16 U	14 U	15 UJ
Chlorobenzene	15 U	13 U	16 U	14 U	15 UJ
Ethylbenzene	15 U	13 U	16 U	14 U	15 UJ
Styrene	15 U	13 U	16 U	14 U	15 UJ
Xylene (total)	15 U	13 U	16 U	14 U	15 UJ
Total Number of TICs *	2	2	2	2	2

NOTE: * - Number, not concentration, of tentatively identified compounds (TICs) found sample.

Volatile Organic Analysis for Sediment Samples
Tentatively Identified Compounds
Arlington Heights Municipal Landfill
Concentrations in $\mu\text{g/kg}$

Sample ST01

Compound Name	Retention Time	Estimated Concentration
Unknown Silane Isomer	11.83	20 BJU
Unknown Silane Isomer	14.13	14 BJU

Sample ST02

Unknown Silane Isomer	11.82	29 BJU
Unknown Silane Isomer	14.13	18 BJU

Sample ST03

Unknown Silane Isomer	11.82	25 BJU
Unknown Silane Isomer	14.13	19 BJU

Sample ST04

Unknown Silane Isomer	11.82	18 BJU
Unknown Saline Isomer	14.13	20 BJU

Sample ST05

Unknown Silane Isomer	11.83	75 BJU
Unknown Saline Isomer	14.15	69 BJ

Semi-volatile Organic Analysis for Sediment Samples
Arlington Heights Municipal Landfill

Semi-volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/kg}$				
	ST01	ST02	ST03	ST04	ST05
Phenol	380 U	390 U	430 U	390 U	410 U
bis(2-Chloroethyl)Ether	380 U	390 U	430 U	390 U	410 U
2-Chlorophenol	380 U	390 U	430 U	390 U	410 U
1,3-Dichlorobenzene	380 U	390 U	430 U	390 U	410 U
1,4-Dichlorobenzene	380 U	390 U	430 U	390 U	410 U
1,2-Dichlorobenzene	380 U	390 U	430 U	390 U	410 U
2-Methylphenol	380 U	390 U	430 U	390 U	410 U
2,2'-Oxybis(1-Chloropropane)	380 U	390 U	430 U	390 U	410 U
4-Methylphenol	380 U	390 U	430 U	390 U	410 U
n-Nitroso-di-n-propylamine	380 U	390 U	430 U	390 U	410 U
Hexachloroethane	380 U	390 U	430 U	390 U	410 U
Nitrobenzene	380 U	390 U	430 U	390 U	410 U
Isophorone	380 U	390 U	430 U	390 U	410 U
2-Nitrophenol	380 U	390 U	430 U	390 U	410 U
2,4-Dimethylphenol	380 U	390 U	430 U	390 U	410 U
bis(2-Chloroethoxy)Methane	380 U	390 U	430 U	390 U	410 U
2,4-Dichlorophenol	380 U	390 U	430 U	390 U	410 U
1,2,4-Trichlorobenzene	380 U	390 U	430 U	390 U	410 U
Naphthalene	380 U	390 U	430 U	390 U	410 U
4-Chloroaniline	380 U	390 U	430 U	390 U	410 U
Hexachlorobutadiene	380 U	390 U	430 U	390 U	410 U
4-Chloro-3-Methylphenol	380 U	390 U	430 U	390 U	410 U
2-Methylnaphthalene	380 U	390 U	430 U	390 U	410 U
Hexachlorocyclopentadiene	380 UJ	390 UJ	430 UJ	390 UJ	410 U
2,4,6-Trichlorophenol	380 U	390 U	430 U	390 U	410 U
2,4,5-Trichlorophenol	910 U	940 U	1000 U	940 U	990 U
2-Chloronaphthalene	380 UJ	390 UJ	430 UJ	390 UJ	410 U
2-Nitroaniline	910 U	940 U	1000 U	940 U	990 U
Dimethylphthalate	380 U	390 U	430 U	390 U	410 U
Acenaphthylene	380 U	390 U	430 U	390 U	410 U
2,6-Dinitrotoluene	380 U	390 U	430 U	390 U	410 U
3-Nitroaniline	910 U	940 U	1000 U	940 U	990 U
Acenaphthene	380 U	390 U	430 U	390 U	410 U

Semi-volatile Organic Analysis for Sediment Samples
Arlington Heights Municipal Landfill

Semi-volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/kg}$				
	ST01	ST02	ST03	ST04	ST05
2,4-Dinitrophenol	910 UJ	940 UJ	1000 UJ	940 UJ	990 UJ
4-Nitrophenol	910 UJ	940 UJ	1000 UJ	940 UJ	990 UJ
Dibenzofuran	380 U	390 U	430 U	390 U	410 U
2,4-Dinitrotoluene	380 U	390 U	430 U	390 U	410 U
Diethylphthalate	380 U	390 U	430 U	390 U	410 U
4-Chlorophenyl-phenylether	380 U	390 U	430 U	390 U	410 U
Fluorene	380 U	390 U	430 U	390 U	410 U
4-Nitroaniline	910 UJ	940 UJ	1000 UJ	940 UJ	990 UJ
4,6-Dinitro-2-Methylphenol	910 U	940 U	1000 U	940 U	990 U
n-Nitrosodiphenylamine	380 U	390 U	430 U	390 U	410 U
4-Bromophenyl-phenylether	380 U	390 U	430 U	390 U	410 U
Hexachlorobenzene	380 U	390 U	430 U	390 U	410 U
Pentachlorophenol	910 U	940 U	1000 U	940 U	990 U
Phenanthrene	220 J	390 U	430 U	380 J	410 U
Anthracene	380 U	390 U	430 U	390 U	410 U
Carbazole	380 U	390 U	430 U	390 U	410 U
di-n-Butylphthalate	380 U	390 U	430 U	390 U	410 U
Fluoranthene	390	390 U	430 U	460	410 U
Pyrene	330 J	390 U	430 U	480	410 U
Butylbenzylphthalate	380 U	390 U	430 U	390 U	410 U
3,3'-Dichlorobenzidine	380 U	390 U	430 U	390 U	410 U
Benzo(a)Anthracene	380 U	390 U	430 U	200 J	410 U
Chrysene	210 J	390 U	430 U	250 J	410 U
bis(2-Ethylhexyl)Phthalate	380 U	390 U	430 U	390 U	410 U
di-n-Octyl Phthalate	380 U	390 U	430 U	390 U	410 UJ
Benzo(b)Fluoranthene	380 U	390 U	430 U	190 J	410 U
Benzo(k)Fluoranthene	380 U	390 U	430 U	200 J	410 U
Benzo(a)Pyrene	380 U	390 U	430 U	390 U	410 U
Indeno(1,2,3-cd)Pyrene	380 U	390 U	430 U	390 U	410 U
Dibenz(a,h)Anthracene	380 U	390 U	430 U	390 U	410 U
Benzo(g,h,i)Perylene	380 U	390 U	430 U	390 U	410 U
Total Number of TICs *	20	12	20	20	20

NOTE: * - Number, not concentrations, of tentatively identified compounds (TICs) found in each sample.

Semi-volatile Organic Analysis for Sediment Samples
Tentatively Identified Compounds
Arlington Heights Municipal Landfill
Concentrations in $\mu\text{g/kg}$

Compound Name	Retention Time	Estimated Concentration
Sample ST01		
Unknown	21.73	130 J
Unknown	25.05	600 J
Hexadecanoic Acid	25.30	770 JN
Sulfur, Mol. (S8)	26.55	370 JN
Unknown	27.53	280 J
Unknown	27.73	220 J
Unknown	29.48	220 J
Unknown	33.45	190 J
Unknown	34.77	330 J
Propanoic Acid Isomer	35.02	600 BJU
Unknown	35.30	440 J
Unknown	36.57	230 J
Unknown	37.05	270 J
Unknown	37.63	1800 J
Unknown	38.03	220 J
Unknown	38.57	250 J
Unknown	38.70	390 J
Unknown	38.95	360 J
Unknown	39.43	870 J
Unknown	39.92	220 J
Sample ST02		
Unknown	31.45	110 J
Unknown	33.07	88 J
Unknown	33.45	120 J
Propanoic Acid Isomer	35.05	100 BJU
Unknown	35.18	160 J
Unknown	35.32	250 J
Unknown	35.45	99 J
Unknown	37.07	180 J
Unknown	38.72	290 J
Unknown	38.97	210 J
Unknown	39.45	350 J
Unknown	39.93	82 J

Semi-volatile Organic Analysis for Sediment Samples
Tentatively Identified Compounds
Arlington Heights Municipal Landfill
Concentrations in $\mu\text{g/kg}$

Compound Name	Retention Time	Estimated Concentration
Sample ST03		
Unknown	23.47	160 J
Unknown	25.07	250 J
Unknown	25.18	140 J
Unknown	25.32	360 J
Unknown	25.85	170 J
Unknown	27.57	130 J
Unknown	33.50	240 J
Unknown	34.43	150 J
Unknown	34.82	340 J
Propanoic Acid Isomer	35.08	150 BJU
Unknown	35.47	280 J
Unknown	36.23	130 J
Unknown	36.63	200 J
Unknown	37.10	330 J
Unknown	37.68	250 J
Unknown	38.63	150 J
Unknown	38.77	330 J
Unknown	39.07	120 J
Unknown	39.48	550 J
Unknown	39.63	200 J
Sample ST04		
Unknown	13.25	160 J
Unknown	15.13	270 J
Unknown	16.92	230 J
Unknown	17.97	190 J
C9.H10.0 Isomer Coelute	18.05	170 J
Unknown	18.58	230 J
Unknown	20.17	200 J
Unknown	21.67	200 J
Unknown	21.75	400 J
Hexadecanoic Acid	25.27	190 JN
Unknown	25.73	140 J
Unknown	33.03	160 J
Unknown	33.45	160 J
Unknown	35.30	510 J
Unknown	37.07	140 J
Unknown	37.65	250 J
Unknown	38.72	430 J
Unknown	38.97	180 J
Unknown	39.45	420 J
Unknown	39.58	140 J

Semi-volatile Organic Analysis for Sediment Samples
Tentatively Identified Compounds
Arlington Heights Municipal Landfill
Concentrations in $\mu\text{g/kg}$

Compound Name	Retention Time	Estimated Concentration
Sample ST05		
Unknown	15.08	130 J
Unknown	16.85	140 J
Unknown	18.52	140 J
Unknown	20.10	130 J
Unknown	21.60	160 J
Unknown	21.68	240 J
Unknown	23.15	130 J
Unknown	29.22	130 J
Unknown	33.35	280 J
Unknown	33.48	130 J
Unknown	35.20	330 J
Unknown	35.40	170 J
Unknown	36.95	200 J
Unknown	37.10	110 J
Unknown	38.60	480 J
Unknown	38.85	170 J
Unknown	38.93	230 J
Unknown	39.33	130 J
Unknown	39.37	120 J
Unknown	39.82	170 J

**Pesticide and PCB Analysis for Sediment Samples
Arlington Heights Municipal Landfill**

Pesticide/PCB	Sample Location and Number Concentrations in $\mu\text{g/kg}$				
	ST01	ST02	ST03	ST04	ST05
Alpha-BHC	2.2 U	2.0 U	2.3 U	1.9 UJ	2.1 UJ
Beta-BHC	2.2 U	2.0 U	2.3 U	1.9 UJ	2.1 UJ
Delta-BHC	3.7 Y	2.0 U	2.3 U	1.9 UJ	2.1 UJ
Gamma-BHC (Lindane)	2.2 U	2.0 U	2.3 U	1.9 UJ	2.1 UJ
Heptachlor	2.2 U	2.0 U	2.3 U	1.9 UJ	2.1 UJ
Aldrin	2.2 U	2.0 U	2.3 U	1.9 UJ	2.1 UJ
Heptachlor Epoxide	2.2 U	1.6 J	2.0 J	1.9 UJ	2.1 UJ
Endosulfan I	2.2 U	2.0 U	2.3 U	1.9 UJ	2.1 UJ
Dieldrin	4.7 P	4.0	8.6	3.8 UJ	4.1 UJ
4,4'-DDE	6.1	3.8 U	6.6	3.8 J	7.1 J
Endrin	4.2 U	3.8 U	4.6 U	3.8 UJ	4.1 UJ
Endosulfan II	4.2 U	3.8 U	4.6 U	3.8 UJ	4.1 UJ
4,4'-DDD	17	3.8 U	4.6 U	2.6 JP	3.7 JP
Endosulfan Sulfate	4.2 U	3.8 U	4.6 U	3.8 UJ	4.1 UJ
4,4'-DDT	2.2 J	2.0 J	4.5 J	2.7 J	10 J
Methoxychlor	22 U	20 U	23 U	19 UJ	21 UJ
Endrin Ketone	4.2 U	3.8 U	4.6 U	3.8 UJ	4.1 UJ
Endrin Aldehyde	4.2 U	3.8 U	4.6 U	3.8 UJ	4.1 UJ
Alpha-Chlordane	2 U	5.1	2.3 U	0.84 J	1.0 J
Gamma-Chlordane	2 U	5.7	1.2 JP	1.0 JP	1.1 JP
Toxaphene	220 U	200 U	230 U	190 UJ	210 UJ
Aroclor-1016	42 U	38 U	46 U	38 UJ	41 UJ
Aroclor-1221	85 U	77 U	93 U	76 UJ	83 UJ
Aroclor-1232	42 U	38 U	46 U	38 UJ	41 UJ
Aroclor-1242	42 U	38 U	46 U	38 UJ	41 UJ
Aroclor-1248	42 U	38 U	46 U	38 UJ	41 UJ
Aroclor-1254	42 U	38 U	46 U	38 UJ	41 UJ
Aroclor-1260	42 U	38 U	46 U	38 UJ	41 UJ

**Inorganic Analysis for Sediment Samples
Arlington Heights Municipal Landfill**

Metals and Cyanide	Sample Locations and Number Concentrations in mg/kg				
	ST01	ST02	ST03	ST04	ST05
Aluminum	7600	15000	18000	13000	11000
Antimony	0.2 UJ	0.2 U	0.2 U	0.2 U	0.3
Arsenic	8.6	5.4	8.0	8.8	8.6
Barium	58	83	90	70	71
Beryllium	0.4	0.7	0.8	0.6	0.5
Cadmium	0.27	0.33	0.69	0.21	0.27
Calcium	30000	18000	18000	56000	50000
Chromium	12	20	26	18	18
Cobalt	7.2	7.0	11	12	11
Copper	19	22	33	26	25
Iron	22000	20000	26000	23000	21000
Lead	29	18	31	26	37
Magnesium	18000	12000	13000	30000	26000
Manganese	360	220	490	670	600
Mercury	0.03 UJ	0.04 J	0.2 J	0.03 UJ	0.05 J
Nickel	16	22	31	28	27
Potassium	1000 U	2000	3000	2500	1800
Selenium	0.4 U	0.4 U	0.7	0.4 U	0.4
Silver	1.2 U	1.2 U	1.1 U	1.0 U	1.0 U
Sodium	360	250	410	360	310
Thallium	0.4 U	0.4 U	0.4	0.3 U	0.3 U
Vanadium	19	21	27	22	20
Zinc	57	62	110	57	62
Cyanide	1.2 U	1.3 U	1.6 U	1.4 U	1.2 U

**Volatile Organic Analysis for Soil Samples
Arlington Heights Municipal Landfill**

Volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/kg}$		
	SS01	SS02	SS03
Chloromethane	11 UJ	14 UJ	11 U
Bromomethane	11 UJ	14 UJ	11 U
Vinyl Chloride	11 UJ	14 UJ	11 U
Chloroethane	11 UJ	14 UJ	11 U
Methylene Chloride	11 BJU	14 BJU	11 BJU
Acetone	11 UJ	14 UJ	11 BJU
Carbon Disulfide	11 UJ	14 UJ	11 U
1,1-Dichloroethene	11 UJ	14 UJ	11 U
1,1-Dichloroethane	11 UJ	14 UJ	11 U
1,2-Dichloroethene (total)	11 UJ	14 UJ	11 U
Chloroform	11 UJ	14 UJ	11 U
1,2-Dichloroethane	11 UJ	14 UJ	11 U
2-Butanone	11 UJ	14 UJ	11 BJU
1,1,1-Trichloroethane	11 UJ	14 UJ	11 U
Carbon Tetrachloride	11 UJ	14 UJ	11 U
Bromodichloromethane	11 UJ	14 UJ	11 U
1,2-Dichloropropane	11 UJ	14 UJ	11 U
cis-1,3-Dichloropropene	11 UJ	14 UJ	11 U
Trichloroethene	11 UJ	14 UJ	11 U
Dibromochloromethane	11 UJ	14 UJ	11 U
1,1,2-Trichloroethane	11 UJ	14 UJ	11 U
Benzene	11 UJ	14 UJ	11 U
trans-1,3-Dichloropropene	11 UJ	14 UJ	11 U
Bromoform	11 UJ	14 UJ	11 U
4-Methyl-2-Pentanone	11 UJ	14 UJ	11 U
2-Hexanone	11 UJ	14 UJ	11 U
Tetrachloroethene	11 UJ	14 UJ	11 U
1,1,2,2-Tetrachloroethane	11 UJ	14 UJ	11 U
Toluene	11 UJ	14 UJ	11 U
Chlorobenzene	11 UJ	14 UJ	11 U
Ethylbenzene	11 UJ	14 UJ	11 U
Styrene	11 UJ	14 UJ	11 U
Xylene (total)	11 UJ	14 UJ	11 U
Total Number of TICs *	0	0	0

NOTE: * - Number, not concentrations, of tentatively identified compounds (TICs) found in each sample.

Semi-volatile Organic Analysis for Soil Samples
Arlington Heights Municipal Landfill

Semi-volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/kg}$		
	SS01	SS02	SS03
Phenol	360 U	120 J	88 J
bis(2-Chloroethyl)Ether	360 U	460 U	360 U
2-Chlorophenol	360 U	460 U	360 U
1,3-Dichlorobenzene	360 U	460 U	360 U
1,4-Dichlorobenzene	360 U	460 U	360 U
1,2-Dichlorobenzene	360 U	460 U	360 U
2-Methylphenol	360 U	460 U	360 U
2,2'-Oxybis(1-Chloropropane)	360 UJ	460 UJ	360 UJ
4-Methylphenol	360 U	460 U	360 U
n-Nitroso-di-n-propylamine	360 U	460 U	360 U
Hexachloroethane	360 U	460 U	360 U
Nitrobenzene	360 U	460 U	360 U
Isophorone	360 U	460 U	360 U
2-Nitrophenol	360 U	460 U	360 U
2,4-Dimethylphenol	360 U	460 U	360 U
bis(2-Chloroethoxy)Methane	360 U	460 U	360 U
2,4-Dichlorophenol	360 U	460 U	360 U
1,2,4-Trichlorobenzene	360 U	460 U	360 U
Naphthalene	360 U	460 U	360 U
4-Chloroaniline	360 UJ	460 UJ	360 UJ
Hexachlorobutadiene	360 U	460 U	360 U
4-Chloro-3-Methylphenol	360 U	460 U	360 U
2-Methylnaphthalene	360 U	460 U	360 U
Hexachlorocyclopentadiene	360 U	460 UJ	360 U
2,4,6-Trichlorophenol	360 U	460 U	360 U
2,4,5-Trichlorophenol	870 U	1100 U	870 U
2-Chloronaphthalene	360 U	460 U	360 U
2-Nitroaniline	870 U	1100 U	870 U
Dimethylphthalate	360 U	460 U	360 U
Acenaphthylene	360 U	460 U	360 U
2,6-Dinitrotoluene	360 U	460 U	360 U
3-Nitroaniline	870 UJ	1100 UJ	870 UJ
Acenaphthene	360 U	460 U	360 U

Semi-volatile Organic Analysis for Soil Samples
Arlington Heights Municipal Landfill

Semi-volatile Compound	Sample Location and Number Concentrations in $\mu\text{g/kg}$		
	SS01	SS02	SS03
2,4-Dinitrophenol	870 U	1100 U	870 U
4-Nitrophenol	870 UJ	1100 UJ	870 UJ
Dibenzofuran	360 U	460 U	360 U
2,4-Dinitrotoluene	360 U	460 U	360 U
Diethylphthalate	360 U	460 U	360 U
4-Chlorophenyl-phenyl ether	360 U	460 U	360 U
Fluorene	360 U	460 U	360 U
4-Nitroaniline	870 UJ	1100 UJ	870 UJ
4,6-Dinitro-2-Methylphenol	870 U	1100 U	870 U
n-Nitrosodiphenylamine	360 U	460 U	360 U
4-Bromophenyl-phenyl ether	360 U	460 U	360 U
Hexachlorobenzene	360 U	460 U	360 U
Pentachlorophenol	870 U	1100 U	870 U
Phenanthrene	37 J	38 J	35 J
Anthracene	360 U	460 U	360 U
Carbazole	360 UJ	460 UJ	360 UJ
di-n-Butylphthalate	360 BJU	460 BJU	360 BJU
Fluoranthene	56 J	35 J	28 J
Pyrene	120 J	54 J	48 J
Butylbenzylphthalate	360 UJ	460 UJ	360 U
3,3'-Dichlorobenzidine	360 UJ	460 UJ	360 UJ
Benzo(a)Anthracene	34 J	460 UJ	360 U
Chrysene	58 J	460 UJ	360 U
bis(2-Ethylhexyl)Phthalate	3100 BD	460 BJU	360 BJU
di-n-Octylphthalate	35 J	460 UJ	360 U
Benzo(b)Fluoranthene	60 J	460 UJ	360 U
Benzo(k)Fluoranthene	360 UJ	460 UJ	360 U
Benzo(a)Pyrene	26 J	460 UJ	360 U
Indeno(1,2,3-cd)Pyrene	360 UJ	460 UJ	360 U
Dibenz(a,h)Anthracene	360 UJ	460 UJ	360 U
Benzo(g,h,i)Perylene	360 UJ	460 UJ	360 U
Total Number of TICs *	20	20	20

NOTE: * - Number, not concentrations, of tentatively identified compounds (TICs) found in each sample.

Semi-volatile Organic Analysis for Surface Soil
Tentatively Identified Compounds
Arlington Heights Municipal Landfill
Concentrations in $\mu\text{g/kg}$

Sample SS01

Compound Name	Retention Time	Estimated Concentration
Unknown	6.35	390 JBU
Unknown	6.73	330 J
Unknown	7.33	800 JB
Unknown	8.58	900 J
Unknown	9.05	180 J
1-Phenyl Ethanone	10.23	180 BJNU
Unknown Organic Acid	20.47	300 J
Unknown	21.70	180 J
Unknown	25.72	250 J
Hexadecanoic Acid	26.00	580 JN
2-Bromo-1,3-Diphenyl 1,3-pro	27.23	82 JN
Unknown Alkane	27.55	290 J
Unknown	27.98	490 J
Unknown Alkane	30.50	420 J
Unknown	34.00	2500 J
Unknown Alkane	34.48	560 J
Unknown	34.70	420 J
Unknown Alkane	35.88	620 J
Unknown	37.00	580 J
Unknown Alkane	37.20	330 J

Sample SS02

Compound Name	Retention Time	Estimated Concentration
Unknown	6.15	580 JBU
Unknown	6.53	480 J
Unknown	7.12	860 JB
Unknown	9.73	260 J
1-Phenyl Ethanone	10.03	710 JBNU
Unknown Alkane	19.10	170 J
Unknown Alkane	20.70	150 J
Unknown Alkane	22.20	220 J
Unknown Alkane	22.28	250 J
Unknown Alkane	23.60	150 J
Unknown Organic Acid	25.75	370 J
2-Bromo-1,3-Diphenyl 1,-pro	27.03	210 JN
Unknown Alkane	27.35	450 J
Unknown Alkane	29.38	1100 J
Unknown Alkane	31.18	2100 J
Unknown Alkane	32.80	3500 J
Unknown Alkane	34.28	830 J
Unknown	34.42	560 J
Unknown	36.80	1300 J
Unknown	37.00	530 J

Semivolatile Organic Analysis for Surface Soil
Tentatively Identified Compounds
Arlington Heights Landfill SSI

Sample SS03

Compound Name	Retention Time	Estimated Concentration
Unknown	6.20	340 JBU
Unknown	6.57	220 J
Unknown	7.18	710 JB
Unknown	8.45	940 J
Unknown Alkane	17.40	170 J
Unknown Alkane	22.25	190 J
Unknown Alkane	22.33	320 J
Unknown Alkane	23.78	150 J
Unknown Alkane	24.98	160 J
Hexadecanoic Acid	25.80	190 JN
Unknown Alkane	26.25	160 J
3-Bromo-1,3-Diphenyl 1,3-pro	27.03	180 JN
Unknown Alkane	27.40	440 J
Unknown Alkane	28.45	360 J
Unknown Alkane	29.43	360 J
Unknown Alkane	30.35	360 J
Unknown	34.47	640 J
Unknown Alkane	35.72	440 J
Unknown	36.85	1900 J
Unknown	37.05	650 J

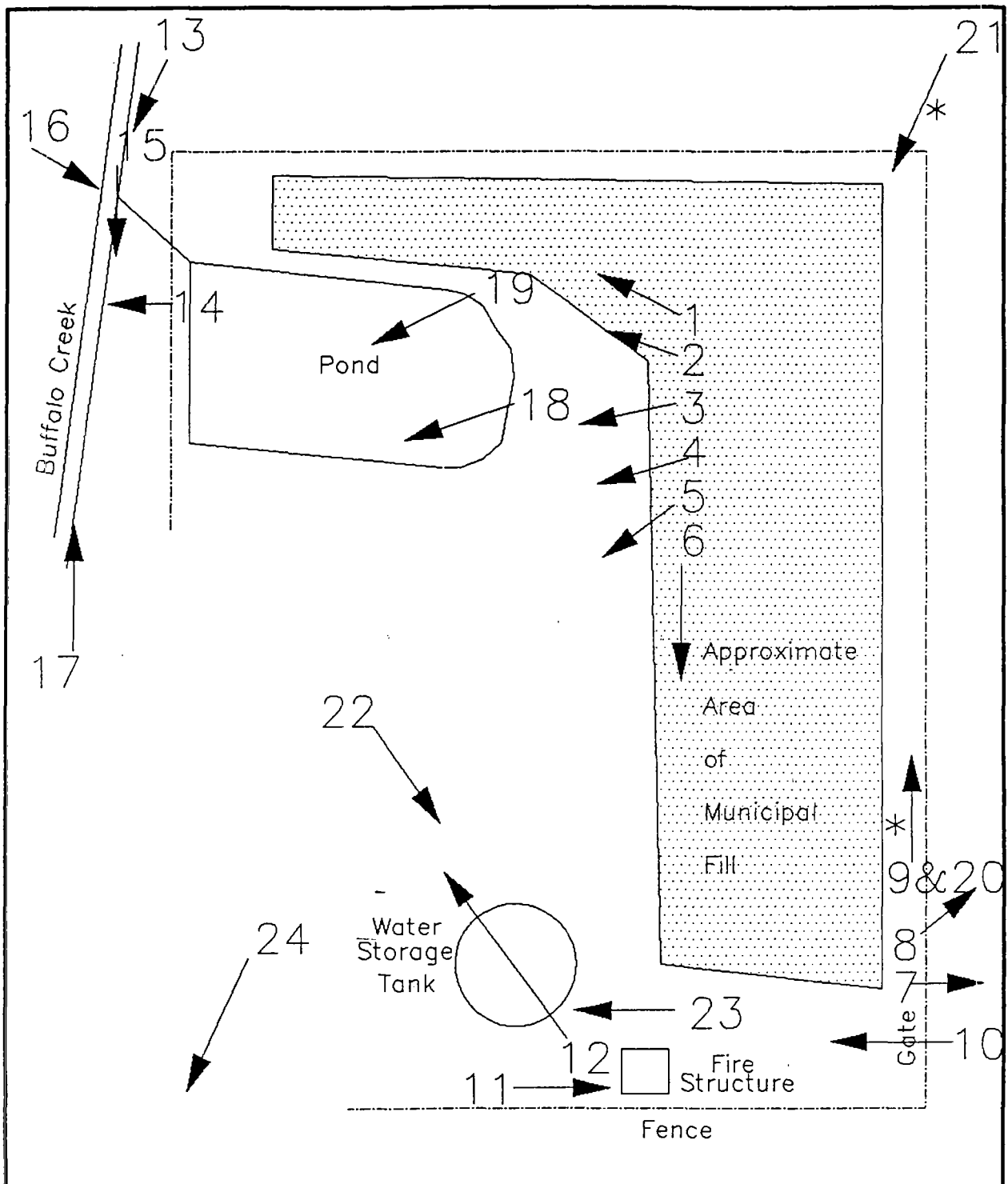
Pesticide and PCB Analysis for Soil Samples
Arlington Heights Municipal Landfill

Pesticide/PCB	Sample Location and Number Concentrations in $\mu\text{g/kg}$		
	SS01	SS02	SS03
Alpha-BHC	1.8 UJ	2.4 UJ	1.8 UJ
Beta-BHC	1.8 UJ	2.4 UJ	1.8 UJ
Delta-BHC	1.8 UJ	2.4 UJ	1.8 UJ
Gamma-BHC (Lindane)	1.8 UJ	2.4 UJ	1.8 UJ
Heptachlor	1.8 UJ	2.4 UJ	1.8 UJ
Aldrin	1.8 UJ	2.4 UJ	1.8 UJ
Heptachlor Epoxide	2.5 J	2.4 UJ	1.8 UJ
Endosulfan I	1.8 UJ	2.4 UJ	1.8 UJ
Dieldrin	1.7 J	1.4 J	3.6 UJ
4,4'-DDE	9.5 J	5.2 J	2.0 J
Endrin	3.6 UJ	4.6 UJ	3.6 UJ
Endosulfan II	3.6 UJ	4.6 UJ	3.6 UJ
4,4'-DDD	35 J	1.5 JP	1.1 J
Endosulfan Sulfate	3.6 UJ	4.6 UJ	3.6 UJ
4,4'-DDT	9.1 J	4.6 UJ	2.1 J
Methoxychlor	18 UJ	24 UJ	18 UJ
Endrin Ketone	3.6 UJ	4.6 UJ	1.1 J
Endrin Aldehyde	3.6 UJ	4.6 UJ	3.6 UJ
Alpha-Chlordane	3.5 J	2.4 UJ	1.8 UJ
Gamma-Chlordane	3.7 J	2.4 UJ	1.8 UJ
Toxaphene	180 UJ	240 UJ	180 UJ
Aroclor-1016	36 UJ	46 UJ	36 UJ
Aroclor-1221	73 UJ	93 UJ	73 UJ
Aroclor-1232	36 UJ	46 UJ	36 UJ
Aroclor-1242	36 UJ	46 UJ	36 UJ
Aroclor-1248	36 UJ	46 UJ	36 UJ
Aroclor-1254	36 UJ	46 UJ	36 UJ
Aroclor-1260	36 UJ	46 UJ	36 UJ

**Inorganic Analysis for Soil Samples
Arlington Heights Municipal Landfill**

Metals and Cyanide	Sample Locations and Number Concentrations in mg/kg		
	SS01	SS02	SS03
Aluminum	17000	14000	17000
Antimony	0.2 U	0.2 U	0.2 U
Arsenic	11	6.3	6.7
Barium	130	95	110
Beryllium	0.8	0.7	0.8
Cadmium	1.24	0.34	0.28
Calcium	19000	27000	8700
Chromium	28	20	23
Cobalt	12	9.9	12
Copper	28	22	25
Iron	25000	23000	26000
Lead	49	13	21
Magnesium	11000	15000	6900
Manganese	760	590	760
Mercury	0.07 J	0.1 J	0.06 J
Nickel	26	26	29
Potassium	2800	1800	1800
Selenium	0.5	0.4 U	0.4 U
Silver	1.2 U	1.1 U	1.1 U
Sodium	240	280	200 U
Thallium	0.4 U	0.4 U	0.4 U
Vanadium	29	22	24
Zinc	97	67	86
Cyanide	1.3 U	1.3 U	1.2 U

Appendix E
Arlington Heights Municipal Landfill
Site Photographs



Source:
Modified from Harza (1989)

Scale:
Not to Scale



Figure E-1
Photo Locations

Arlington Heights Municipal Landfill
Arlington Heights, IL

Date: 12/31/92

Time: 1010

Photo Taken By: J. Quinn

Photo Number: 1

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: Northwest

Description: Onsite pond from top of landfill.



Date: 12/31/92

Time: 1010

Photo Taken By: J. Quinn

Photo Number: 2

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: West-northwest

Description: Onsite pond from top of landfill.



Date: 12/31/92

Time: 1010

Photo Taken By: J. Quinn

Photo Number: 3

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: West-southwest

Description: Onsite pond from top of landfill.



Date: 12/31/92

Time: 1010

Photo Taken By: J. Quinn

Photo Number: 4

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: Southwest

Description: View from top of landfill.



Date: 12/31/92

Time: 1010

Photo Taken By: J. Quinn

Photo Number: 5

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: South-southwest

Description: View from top of landfill.



Date: 12/31/92

Time: 1010

Photo Taken By: J. Quinn

Photo Number: 6

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: South

Description: View from top of landfill.



Date: 12/31/92

Time: 1013

Photo Taken By: J. Quinn

Photo Number: 7

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: East

Description: View from southeast portion of
site.



Date: 12/31/92

Time: 1013

Photo Taken By: J. Quinn

Photo Number: 8

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: Northeast

Description: View of southeast portion of
site.



Date: 12/31/92

Time: 1015

Photo Taken By: J. Quinn

Photo Number: 9

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: North

Description: East border of landfill where
IBT vaults are buried.



Date: 12/31/92

Time: 1015

Photo Taken By: J. Quinn

Photo Number: 10

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: West-northwest

Description: East gate of landfill.



Date: 12/31/92

Time: 1030

Photo Taken By: J. Quinn

Photo Number: 11

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: East

Description: Fire training center and
dumpster for ash.



Date: 12/31/92

Time: 1030

Photo Taken By: J. Quinn

Photo Number: 12

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: Northwest

Description: Municipal well pump house and
water tank.



Date: 4/14/93

Time: 1057

Photo Taken By: J. Quinn

Photo Number: 13

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: Southwest

Description: Location of ST01 (flag).
Location of SW01 is 8 feet further upstream
(to left). Bridge is Nichols Road over Buffalo
Creek.



Date: 4/14/93

Time: 1120

Photo Taken By: J. Quinn

Photo Number: 14

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: West

Description: Location of ST03, near Buffalo
Creek.



E-8

Date: 4/14/93

Time: 1131

Photo Taken By: J. Quinn

Photo Number: 15

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: South

Description: Location of SW03. Note broken
tile pieces.



Date: 4/14/93

Time: 1135

Photo Taken By: J. Quinn

Photo Number: 16

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: East-southeast

Description: View of landfill, onsite pond,
Buffalo Creek, gully of SW03, grove of trees
of ST03.



Date: 4/14/93

Time: 1212

Photo Taken By: J. Quinn

Photo Number: 17

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: North

Description: Location of ST02 (flag) and
SW02 (at weir) where Venture St. bridge
crosses Buffalo Creek.



Date: 4/14/93

Time: 1535

Photo Taken By: J. Quinn

Photo Number: 18

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: Southwest

Description: Location (at flag) of SW04 and
ST04. Location is at midpoint of eastern
shore of onsite pond.



Date: 4/14/93

Time: 1550

Photo Taken By: J. Quinn

Photo Number: 19

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: Southwest

Description: Location of SW05 (flag) along
northern shore of onsite pond.



Date: 4/15/93

Time: 1130

Photo Taken By: J. Quinn

Photo Number: 20

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: North

Description: MW-6 (sample GW01).



Date: 4/15/93

Time: 1720

Photo Taken By: J. Quinn

Photo Number: 21

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: Southwest

Description: MW-4 (GW02 and GW02D) and
SS01 (bag).



Date: 4/15/93

Time: 1808

Photo Taken By: J. Quinn

Photo Number: 22

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: Southeast

Description: SS03, with water tank in
background.



Date: 4/15/93

Time: 1821

Photo Taken By: J. Quinn

Photo Number: 23

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: West

Description: SS02 (flag) with water tank in
background.



Date: 5/20/93

Time: 0934

Photo Taken By: J. Quinn

Photo Number: 24

Location/ILD #: Arlington Heights Municipal
Landfill/ILD 984 781 526

Direction of Photo: South-southwest

Description: View of ditch that flows along
the southern edge of the property, then turns
north along western edge of property. Photo
taken from edge of bluff, 100 yards west of
water tank.



Appendix F
Arlington Heights Municipal Landfill
Representative Well Logs

Town Arlington Heights Whooling

Company Peter Snolton & Sons No.

Farm Adler, John N. No.

Authority Peter Snolton & Sons

Elevation 727 T.M.

Collector

Confidential

Date Drilled Sept. 1940

Map No. 3

n. 11E

Sec. 7

No.	Strata	Thickness		Depth	
		Feet	In.	Feet	In.
	200' S. of Dundee Rd., 1/2 mi. W. of State Rd.				
	Clay, yellow	13		13	
	Clay, blue	12		25	
	Hardpan	13		38	
	Gravel	3		41	
	Sand and gravel	13		54	
	Sand clay	21		75	
	Clay, blue	36		111	
	Sand and gravel	4		115	
	Clay, blue	13		127	
	Sand	7		134	
	Gravel	5		139	
	Sand	17		156	
	Sand and gravel	4		160	
	Rock	26		186	
	Cased with 6" to 160'				
	Water level from surface 35'				
	Capacity 20 g.p.m.				
	Water lowered to 35' in 1 hr.				
	Total length to test run 1 hr.				

NO ENVELOPE

COUNTY Cook

DRILL RECORD

(A32137-20M)

INDEX NO. 0307

7-12N-11E

ILLINOIS GEOLOGICAL SURVEY, URBANA (10-10)

SURVEYS SECTION. BE SURE TO

GEOLOGICAL WATER SURVEYS WATER WELL RECORD

Completed 12-30-71

10. Dept. Mines and Minerals permit No. 11866 Year 71

11. Property owner Vil. Arlington Well No. 13

Address 33 S. Arl. Hts. High Arl. Hts. Ill

Driller Egerer-Galloway License No. 92-289

12. Water from sandstone Formation 13. County Cook

at depth 912 to 1795 ft. Sec. 6

14. Screen: Diam. 2 in. Twp. 42N

Length: 2 ft. Slot 1/2 in. Rng. 11E

Elev. 11E

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
26	Steel 3/8" A-53	42	182
22	" " "	0	490
18	" " "	892	1046

SHOW LOCATION IN SECTION PLAT 1C19' NL, 1194' EL, NE SW (Permit)

16. Size Hole below casing: 17 in.

17. Static level 563 ft. below casing top which is 2 ft.

above ground level. Pumping level 653 ft. when pumping at 1100 gpm for 24 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Glacial Drift	180	180
Limestone	170	350
Shale	115	465
Dolomite	290	755
Sandstone	157	912
Dolomite with shale & sandstone	239	1151
Sandstone (some shale 1309-1422)	644	1795

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Wm. A. Peterson DATE 1/28/72

1439

S.S.#57860

COOK

6-42N-11E

1. Copy -
1. Dept. of Int. Health
1. Copy - Air Contractor
1. Copy - Well Owner

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

10. Property owner Fred Hildebrandt Well No. _____
Address Bethesda, Md. 1 - Market Rd. - Bethesda, Md.
Driller Robert E. Leonard License No. 43-512
11. Permit No. 23523 Date June 7 1973
12. Water from Shale 13. County Cork
Formation
at depth 370 to _____ ft. Sec. 6
14. Screen: Diam. _____ in. Twp. 42N
Length: _____ ft. Slot _____ Rge. 11E
Elev. _____

Diam. (in.)	Kind and Weight	From (ft.)	To (ft.)
.5	Galv. - 15 lbs	0	178

SHOW
LOCATION IN
SECTION PLAT
LINE SE

16. Size Hole below casing: 5 in.
17. Static level 20 ft. below casing top which is 1 ft. above ground level. Pumping level 230 ft. when pumping at 3 gpm for 3 hours.

18.	FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
	Top Soil	5	5
	Clay + Sand + Gravel	1.5	7.0
	Sand	.5	7.5
	Sand + Clay	1.5	14.0
	Clay + Gravel	2.8	16.8
	Sand + Gravel + Clay	10	178
	Limestone	7.2	250
	Shale	20	270
	:		

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED M. B. P. [Signature] DATE 9-12-73

REMARKS:

2 GPM Flow Valve
Installed in Well on Pump

10/11 4,065
10/18

White Copy -
Ill. Dept. of Public Health
Yellow Copy - Well Contractor
Blue Copy - Well Owner

INSTRUCTION DRILLERS

FILL IN ALL PERTINENT INFORMATION REQUESTED AND MAIL ORIGINAL TO STATE
DEPARTMENT OF PUBLIC HEALTH, CONSUMER HEALTH PROTECTION, 535 WEST
JEFFERSON, SPRINGFIELD, ILLINOIS, 62761. DO NOT DETACH GEOLOGICAL/WATER
SURVEYS SECTION. BE SURE TO PROVIDE PROPER WELL LOCATION.

ILLINOIS DEPARTMENT OF PUBLIC HEALTH WELL CONSTRUCTION REPORT

1. Type of Well

- a. Dug ☐ Bored ☐ Hole Diam. 5 in. Depth 171 ft.
Curb material ☐ Buried Slab: Yes ☐ No ☐
b. Driven ☐ Drive Pipe Diam. ☐ in. Depth ☐ ft.
c. Drilled ☒ Finished in Drift ☐ In Rock ☒
Tubular ☐ Gravel Packed ☐
d. Grout:

(KIND)	FROM (FT.)	TO (FT.)

2. Distance to Nearest:

Building ☐ Ft. Seepage Tile Field ☐
Cess Pool ☐ Sewer (non Cast iron) ☐
Privy ☐ Sewer (Cast iron) ☐
Septic Tank ☐ Barnyard ☐
Leaching Pit ☐ Manure Pile ☐

3. Well furnishes water for human consumption? Yes ☒ No ☐
4. Date well completed 6/22/78
5. Permanent Pump Installed? Yes ☒ Date 11/2/78 No ☐
Manufacturer Red Jacket Type Subm. Location ☐
Capacity 10 gpm. Depth of Setting 126 Ft.
6. Well Top Sealed? Yes ☒ No ☐ Type ☐
7. Pitless Adapter Installed? Yes ☒ No ☐
Manufacturer Williams Model Number ☐
How attached to casing? clamp
8. Well Disinfected? Yes ☒ No ☐
9. Pump and Equipment Disinfected? Yes ☒ No ☐
10. Pressure Tank Size 82 gal. Type Well-X-Trol
Location ☐
11. Water Sample Submitted? Yes ☒ No ☐

REMARKS:

GEOLOGICAL AND WATER SURVEYS WELL RECORD

LaSavanne

10. Property owner THE KENNEDY CO. Well No. Lot 34
Address 1821 Hicks Rd., Rolling Meadows, IL.
Driller GEORGE E. GAFFKE License No. 102-234
11. Permit No. 74942 Date 5/31/78
12. Water from Limestone Formation
at depth 155 to 171 ft. Sec. 31
14. Screen: Diam. ☐ in. Twp. 43N
Length: ☐ ft. Slot ☐ Rge. 11E
Elev. ☐

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	PVC	grade	145
5	Black Steel	145	166

SHOW LOCATION IN SECTION PLAT
Lot 34 LaSavanne Subd
100's 100's NW/4 NG/4 SE

16. Size Hole below casing: 5 in.
17. Static level 98 ft. below casing top which is 1 ft.
above ground level. Pumping level ☐ ft. when pumping at 10 gpm for ☐ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	2	2
Yellow Clay	7	9
Blue Clay	25	34
Soft Blue Clay	16	50
Blue Clay	76	126
Hard Pan	13	139
Blue Clay	10	149
Gravel	6	155
Limestone	16	171

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED George E. Gaffke DATE 11/02/78

6.0 References

- Arlington Heights, 1976. Telephone communication from Gene Willroth, Director of Public Works, to Bob Wengrow, Division of Land Pollution Control, IEPA, February 18.
- Arlington Heights, 1993a. Personal communication to Arlington Heights Department of Public Works, from S. Mehay, BVWST, August 18.
- Arlington Heights, 1993b. Zoning map.
- Berg, R.C. and J.P. Kempton, 1988. Stack-Unit Mapping of Geologic Materials in Illinois to a Depth of 15 Meters: Illinois State Geological Survey, Circular 542.
- Berg, R.C., J.P. Kempton, and K. Cartwright, 1984. Potential for Contamination of Shallow Aquifers in Illinois: Illinois State Geological Survey, Circular 532.
- Bergstrom, R.E., J.W. Foster, L.F. Selkregg, and W.A. Pryor, 1955. Groundwater Possibilities in Northeastern Illinois: Illinois State Geological Survey, Circular 198.
- Buffalo Grove, 1993. Personal communication from R. Rigsby, Water Department, to J. Quinn, BVWST, January 18.
- Ecology and Environment, Inc., 1988. Screening Site Inspection Report of Arlington Heights Landfill (ILD 981 193 428), by Gerard Breen, January 28.
- Federal Emergency Management Agency (FEMA), 1981. Flood Insurance Rate Map 170054 0015B.
- Harza Environmental Services, Inc. 1989. Environmental Assessment Report, Arlington Heights Landfill, February.
- Hughes, G.M., P. Kraatz, and A. Landon, 1966. Bedrock Aquifers of Northeastern Illinois: Illinois State Geological Survey, Circular 406.

Illinois Department of Conservation, 1993. Letter and attached map from Susan Dees to John Quinn, BVWST, March 17.

Illinois Environmental Protection Agency (IEPA), 1983. "List of Public and Food Processing Water Supplies Utilizing Surface Water," Division of Public Water Supplies, July.

IEPA, 1986. Preliminary Assessment of Arlington Heights Municipal Landfill, by Kenneth L. Page, April 22.

IEPA, 1989a. DLPC Complaint Investigation Form, by Gino Bruni, February 24.

IEPA, 1989b. Memo from Gino Bruni to Monte Nienkirk, March 9.

IEPA, 1990. CERCLA Preliminary Assessment Report, Arlington Heights Municipal Landfill (ILD 984 781 526), by Judy J. Triller, September 7.

IEPA, 1992. GWM Raw Source Location Report: Division of Public Water Supplies, July 16.

IEPA, 1993a. Personal communication from G. Bruni, Maywood office, to J. Quinn, BVWST, January 22.

Illinois State Water Survey (ISWS), 1992. Printouts of PICS database and Private Well Database.

Kildeer, 1993. Personal communication from village hall representative to J. Quinn, BVWST, January 18.

Long Grove, 1993. Personal communication from village hall representative to J. Quinn, BVWST, January 18.

Palatine, 1993. Personal communication from W. Helms, Water Department, to J. Quinn, BVWST, January 18.